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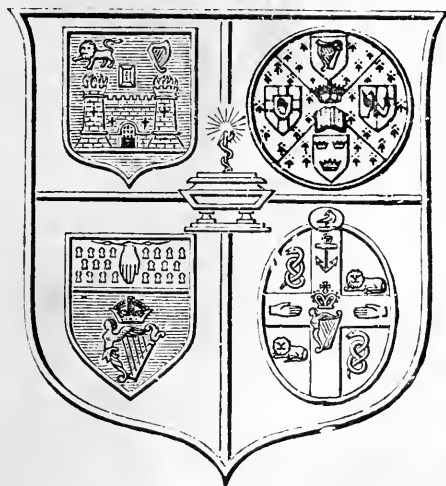
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OF

MEDICAL SCIENCE.

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THE DUBLIN JOURNAL

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JUNE 1, 1897.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XXII.—*Angina Pectoris*.^a By JOHN KNOTT, M.A., M.D., Ch.B., and Dip. Stat. Med. (Univ. Dubl.); M.R.C.P.I.; M.R.I.A.; Fellow of the Royal Academy of Medicine in Ireland; &c.

(Continued from page 378.)

To the subsequent account of this complaint which Heberden included in his "Commentaries on the History and Cure of Diseases," the following note is appended:—"Cælius Aurelianus, as far as I know, is the only ancient writer who has noticed this complaint, and he but slightly: 'Erasistratus memorat paralyseos genus, et *paradoxon* appellat, quo ambulantes repente sistuntur, ut ambulare non possint, et tum rursum ambulare sinuntur.'" Other descriptions of the more prominent features of the clinical entity now universally known as *angina pectoris* have since been exhumed by other explorers in this department of medical literature. Parry ("An Inquiry into the Symptoms and Causes of the Syncope Anginosa, commonly called *Angina Pectoris*") has quoted Seneca's description of his own symptoms; and Professor Osler, of the Johns Hopkins University, Baltimore, has reproduced the translation given by Parry of a part of the forcible account of his sufferings

^a Read before the Section of Medicine of the Royal Academy of Medicine in Ireland, Friday, April 9, 1897.

which was given by the Roman philosopher : “ The attack is very short and like a storm. It usually ends within an hour. I have undergone all bodily infirmities and dangers ; but none appears to me more grievous. Why not ? Because to have any other malady is only to be sick ; to have this is to be dying.” To this very vivid statement of the intensity of his sufferings Seneca adds that his physicians called the disease from which he suffered a *meditatio mortis*. Forbes and Gairdner regard this case as one of true angina pectoris, although Parry did not.

A still more indisputable case is to be found portrayed in that vast clinical mine of symptomatology and morbid anatomy, the *De Sedibus et Causis Morborum per Anatomen indagatis* of Morgagni. (*Lib. II. Epist. XXVI.*):—

MATERFAMILIAS duos & quadraginta annos nata, diu valetudinaria, diuque obnoxia vixerat paroxysmo cuidam ad hunc modum se habenti. A concitatis corporis motibus ingruebat molestus quidam angor intra superiorem thoracis sinistram partem, cum spirandi difficultate, & sinistri brachii stupore : quæ omnia ubi motus illi cessarent, facile remittebant. Ea igitur mulier cum circa medium Octobrem A. 1707. Venetiis in continentem trajecta, rheda veheretur, lætoque esset animo, ecce tibi ille idem paroxysmus : quo correpta, & mori se, ajens, ibi repente mortua est. CADAVER in urbem vectum, cum postridie a notis inspiceretur, . . Cor potius magnum, & durum valde, ac robustum. Aorta ad curvaturam non parum dilatata, justa alibi in trunco, ramisque majoribus latitudine. Sed intus, ubicunque incideres, hic illic inæqualis, nec sine osseis perfectis squamulis, nedum crebris inchoatarum indiciis. Quæ cum videremus ; universum truncum, majoresque ramos aperuimus : in illoque ab ipsa origine pone Semilunares valvulas, quæ duræ hic illic erant, et cum futuri ossis initus ad Ilicas usque arterias descripta vitia animadvertimus. Per has tamen, perque alias, etiam superiores, ac nominatim Subclaviam sinistram minime propagabantur, si primam excipias alterius illius, arteriæ partem, quæ Carotidi, & Subclaviæ dexteris originem præbet. Hinc oculos ad cor referentes, & ad cetera quæ ipsi annexa sunt, vasa, nihil usquam conspeximus vitii, nisi quod Pulmonaris venæ

caudex paulo visus est æquo major. In hoc, & in adjecto ventriculo sanguis erat paucus, isque, ut aliis omnibus in locis, niger et omnino fluidus. Sed in Pulmonaris arteriæ trunco non paucus; quanquam in ventriculo dextero, ejusque auricula nullus, facile quia per venam Cavam, paulo ante infra jecur incisam, defluerat. . . .”

There can be no second opinion, I think, of the genuineness of the group of symptoms here given, and of the value of the description of the state of the vascular system which is so usually found associated therewith. The following case I also regard as one of true angina:—

N. Ferrarinius, Sacerdos Veronensis, qui olim Venetiis phthisicus fuerat judicatus, Patavii autem ante decem annos hemicrania laboraverat, nunc anno exacto quadragesimo tertio, canutus, facie interdum nimis rubicunda, gracili corporis habitu, nec tamen macilento, etsi alacer ad actiones, lætusque videbatur, gravibus quas dissimulabat, curis vir alioquin ad iram pronus, valde anxius erat: queri autem solebat de quibusdam intra thoracem doloribus, quorum sedem manu sterno imposita designabat. Quin pridie se non bene habere, Chirurgo dixerat, ideoque remediis uti quam primum velle opportuno illo anni tempore; erat autem mensis ille Majus quo Tita, atque alii in hac urbe repente obierant; quamvis tempestate sicca, et calida facta; nonus jam esset dies ex quo id acciderat nemini. Cænatus est tamen cum hospitibus hilariter; sed intra modum: nec sane, seu copiam, seu qualitatem attendas, peccare in cibis, aut potionibus consueverat. At summo insequenti mane in lecto mortuus inventus est, supinus, habitu dormientis, sine ulla ad os spuma, tantum brachiis adeo rigidis, ut sine vi diduci non posse, viderim, cum antequam advesperasceret domum ejus venissem cum Collegis meis Professoribus Medicinæ Primariis. Cadaveris facies, & cervices, & dorsum, & latera ex subrurbro livebant. . .

“In Pulmonibus, excepta sanguinis copia nihil fuit quod adnotaremus. In pericardio nil ferme humoris. In cordis ventriculo dextro polyposa concretio. Tricuspidum valvularum fibrillis ex parte implicata, tres aut quatuor digitos longa, sesquidigitum lata, structura valde compacta; ut qui polypos facile ponunt, hanc pro polypo ante mortem

genito habere potuissent. Cum ea sanguis ater semiconcretus, qualis et in proxima auricula. In ventriculo sinistro sanguis minus coagulatus, pauciorque. Ejus columnæ quasi inflammatae, Semilunares valvulae paulo quam æquum esset, duriores. Arteriæ Magnæ truncus a corde ad eum usque locum unde incipit descendere, exterius quidem facie inæquali non secus ac si in tuberum modum quadantenus hic illic assurgeret: sed interius toto eo spatio nihil, nisi superficies rugosa, vix duobus locis, iisque exiguis indicia necdum maturæ ossificationis: cætera per dorsum, et in cunctis ascendentibus ramis naturali superficie.”—(*Lib. I., Epist. IV.*)

A curiously interesting item in the early literary history of angina pectoris is the fact that the perusal of Dr. Heberden’s original description of this symptom-group elicited a letter to him on the subject, which, as Professor Osler truly observes, contains one of the best descriptions of the condition. Heberden’s first communication on the subject was read at the College of Physicians (London), July 21, 1768. On November 17, 1772, he read another paper on the same subject, the commencing portion of which forms, perhaps, the most instructive contribution which has hitherto been made to the now voluminous literature of this subject. It opens as follows:—

“Soon after the publication of the second volume of the Medical Transactions I received the following anonymous letter:—

“‘SIR,—Seeing among the extracts from the Medical Transactions in the *Critical Review* of last month, your account of a disorder, which you term the *angina pectoris*, I found it so exactly corresponds with what I have experienced of late years, that it determined me to give you such particulars as I can recollect at those times to have felt, more especially as some sensations have frequently led me to think that I should meet with a sudden death. I am now in the fifty-second year of my age, of a middling size, of a strong constitution, a short neck, and rather inclining to be fat. My pulsations at a medium are about 80 in a minute; the extremes, when in a perfect state of health, beyond which I scarcely ever knew them, 72 and

90. I have enjoyed from my state of childhood so happy a state of health as never to have wanted, nor taken, a dose of physic of any kind for more than twenty years. As well as I can recollect, it is about five or six years since that I first felt the disorder which you treat of; it always attacked me when walking, and always after dinner or in the evening. I never then felt it in a morning, nor when sitting, nor in bed. I never ride, and seldom use a coach, but it never affected me in one. The first symptom is a pretty full pain in my left arm a little above the elbow; and in perhaps half a minute it spreads across the left side of my breast, and produces either a little faintness, or a thickness in my breathing; at least I imagined so, but the pain generally obliges me to stop. At first, as you observe, it went off instantaneously, but of late by degrees; and if, through impatience to wait its leaving me entirely, I resumed my walk, the pain returned. I have frequently, when in company, borne the pain, and continued my pace without indulging it; at which times it has lasted from five to perhaps ten minutes, and then gone off, as well as I can recollect, rather suddenly, as it came on, than lessening gradually. Sometimes I have felt it once a week; other times a fortnight, a month, or a longer time, may elapse without its once attacking me; but, I think, I am more subject to it in the winter than in the summer months. As, when the pain left me, I had no traces of having the least disorder within me of any kind, either from spitting blood, or any corrupted matter, nor ever entertained the least thought of any abscess being formed, I never troubled myself much about the cause of it, but attributed it to an obstruction in the circulation, or a species of the rheumatism. I shall now proceed to acquaint you with those sensations which to me seem to indicate a sudden death, but which, not being concomitant with the above-mentioned disorder, I am ignorant whether they are to be attributed to it or not. I have often felt, when sitting, standing, and at times in my bed, what I can best express by calling it an universal pause within me of the operations of nature for perhaps three or four seconds; and when she has resumed her functions, I felt a shock at the heart, like that which

one would feel from a small weight being fastened to a string to some part of the body, and falling from the table to within a few inches of the floor. At times it will return two or three times in half an hour; at other times not once a week; and sometimes I do not feel it for a long time; and I think I have been less subject to it for a year past than for several former ones. As you have mentioned several, who within your own knowledge have died suddenly, that were troubled with the *angina pectoris*, I suspect they were subject to what I have delineated, as I think that much more likely to occasion a sudden death than either of the causes to which you attribute it. But, be the cause what it may, if it please God to take me away suddenly, I have left directions in my will to send an account of my death to you, with a permission for you to order such an examination of my body as will show the cause of it; and, perhaps, tend at the same time to a discovery of the origin of that disorder, which is the subject of this letter, and be productive of means to counteract and remove it.

“‘I am, sir, yours,
“‘UNKNOWN.’”

Another extraordinary coincidence in the history of this interesting case is then given by Dr. Heberden:—"In less than three weeks after he had sent this letter I was informed that in the midst of a walk, which he was taking after dinner, he leaned against a post, and begged a passenger to assist him, by whose help he reached a neighbouring house, where he vomited much and was bled, but died in less than half an hour." The *post-mortem* examination was made by the great John Hunter at the request of Dr. Heberden. "But, upon the most careful examination, no manifest cause of his death could be discovered . . . the heart with its vessels and valves were all found to be in a natural condition, except some few specks of a beginning ossification upon the aorta. . . . The left ventricle of the heart was remarkably strong and thick, and as perfectly empty of blood as if it had been washed. . . . It was very remarkable that the blood was nowhere coagulated, and did not coagulate even after being more

than two hours exposed to the air; but at the same time could not be called perfectly fluid, being of the consistence of thin cream; but there was no separation of any of its component parts." This fluidity of the blood after death from angina pectoris has been noticed in other cases, as I will have occasion to notice afterwards.

Of the series of published cases and comments on this disease, which appeared within the few years after Heberden's original description, I am glad to be able to say that one of the most instructive and most skilfully-reported came from our own country. On the 3rd of November, 1776, Dr. David MacBride, of Dublin, made a communication on this subject to his friend Dr. Fothergill, of London, to be read before the Medical Society. It contains the following case, which had been conveyed to him by letter from a medical friend whose name he does not publish. Being peculiarly interesting, both in the symptomatology and therapeutics, I extract it in full:—

"A. B., a tall, well-made man, rather large than otherwise; of healthy parents, except that there had been a little gout in his family; temperate, and being very attentive to the business of his trade (that of a watch-maker); had led a life uncommonly sedentary. From a boy had been remarkably subject to alarming inflammations of his throat, which seized him at least once in the course of the year; in all other respects well.

"In 1767 (then forty-eight years of age) he was taken, without any evident cause, with a sudden and very dispiriting throbbing under his sternum; it soon afterwards increased, and returned upon him every third or fourth week, accompanied with great anxiety; very laborious breathing; choking; a sensation of fulness and distension in his head; a bloated and flushed countenance; turgid and watery eyes; and a very irregular and unequal pulse. The paroxysm invaded almost constantly while he was sitting after dinner; though now and then he was seized with it in the morning, when walking a little faster than usual; and was then obliged to stop, and rest on any object at hand: once or twice it came on in bed, but did not oblige him to sit up, as it was then attended with no

great difficulty of breathing. In the afternoon fits, his greatest ease was from a supine posture, in which he used to continue motionless for some hours, until, quite spent and worn out with anguish, he dropt into a slumber: in the intervals between these attacks, which at length grew so frequent as to return every four or five days, he was, to all appearance, in perfect health.

“Thus matters continued for more than two years; and various antispasmodics were ineffectually tried for his relief. In 1769 there supervened a very sharp constrictory pain at the upper part of the *sternum*, stretching equally on each side, attended with the former symptoms of anxiety, dyspnoea, choking, &c., and with an excruciating cramp, as he called it, that could be covered with a crown piece, in each of his arms, between the elbow and the wrist, exactly at the insertion of the *pronator teres*: the rest of the limb was quite free. The fits were sometimes brought on, and always exasperated, by any agitation of mind or body. He once attempted to ride on horseback during the paroxysm, but the experiment was near proving fatal to him. The difference of season or weather made no impression on him; still, in the intervals, his health was perfectly good, except that his eyes, which, before his illness, were remarkably strong and clear, were now grown extremely tender, and his sight much impaired; he had no flatulency of his stomach, and his bowels were regular.

“In this situation, Feb. 22, 1770, he applied to me for assistance. I had seen, I believe, eight or ten of these frightful cases before; and two of the patients dropped down dead suddenly. They were men between forty and fifty years of age, and of a make somewhat fleshy; the fate of the others I was not informed of; or, at least, cannot now recollect.

“Having formerly found the total inefficacy of blisters, and the whole class of nervous medicines, in the treatment of this anomalous spasm, I thought it now right to attempt the correcting or draining off of the irritating fluid. To this purpose, I ordered a mixture of *aq. calc. mag. c.* with a little of the *aq. juniperi com.* and a small proportion of

Huxham's antimonial wine; as an alterative, I put the patient on a plain, light, perspirable diet; and restrained him from all viscid, flatulent, and acrimonious aliments. By pursuing this course he was soon apparently mended; but after he had persisted in it regularly for, at least, two months, he kept for some time at a stand. I then ordered a large issue to be opened in each of his thighs. One only was made; however, as soon as it began to discharge, his amendment manifestly increased; the frequency and severity of the fits abated considerably; and he continued improving gradually, until, at the end of eighteen months, he was restored to perfect health; which he has enjoyed without the least interruption till now, except when he has been tempted (perhaps once in a twelvemonth) to transgress rules, by making a large meal on salted meat, or indulging himself in ale, or rum punch (each of which never failed to disorder him from the beginning of his illness); and even on these occasions he has felt no more than the slightest notice of his former sufferings; insomuch that he would despise the attack if it did not appear to be of the same stock with his old complaint. No other cause has had the least ill effect on him. Though rum was so constantly hurtful, yet punch, made with a maceration of black currants in our vulgar corn spirit, is a liquor that agrees remarkably well with him. He never took any medicine after the issue began to discharge; and I have directed that it shall be kept open as long as he lives. The inflammations of his throat have disappeared for five years past; he has recovered the strength and clearness of his sight; and his health seems now to be entirely re-established."

This treatment, which would probably find few advocates among the advanced scientific physicians of the last decade of the nineteenth century, was adopted by the celebrated Dr. Erasmus Darwin, the grandfather of the still more famous Charles. In a volume published in 1796 he tells us: "Four patients I have now in my recollection, all of whom I believed to labour under the angina pectoris in a great degree; which have all recovered, and have continued well three or four years by the use, as I believe,

of issues on the inside of each thigh; which were at first large enough to contain two peas each and afterwards but one. They took, besides, some slight antimonial medicine for a while, and were reduced to half the quantity or strength of their usual potation of fermented liquor." This distinguished physician goes on to give "Dr. MacBride, physician at Dublin," credit for having first recommended the use of "femoral issues" in angina pectoris; and proceeds to add: "I was further induced to make trial of them, not only because the means which I had before used were inadequate, but from the ill effect I once observed upon the lungs, which succeeded the cure of a small sore beneath the knee; and argued conversely, that issues in the lower limbs might assist a difficult respiration."

Proceeding to comment on the above case, Dr. MacBride makes the following very interesting observation:—"This very alarming disease is not so common in this country as it appears to be in England; as the gentleman who furnishes the above history has not, in near forty years' most extensive practice, met with more than eight or ten cases; and it is now above six years since he has heard of any—a sure proof of its not being frequent, since, if it had, he undoubtedly would have been often consulted. I have also, within these few days, conversed with some more of our most eminent practitioners, who have seen a great deal of business; but not one of them remembers any case exactly similar to the present, or those which have been so graphically described by yourself and Dr. Heberden. For my own part, I have never met with one; but if I may be allowed to turn theorist on this occasion, I should ascribe the exemption to two circumstances, wherein the people of the two kingdoms materially differ: the one, respecting the proportional numbers of sedentary persons; the other, regarding the general course of living. In England, and especially the capital, at least fifty people are occupied in the several branches of the finer mechanic arts, for one that is so employed in Ireland; and the posture, in which the most part of these ingenious artists are constrained to sit at their work, necessarily tends to impede the circulation through all the parts contained in the *thorax*.

With you, men of all ranks certainly eat larger quantities of gross animal food, and drink more freely of malt liquors and sophisticated wines, than we do; for our lower sort may be said to live entirely on a vegetable and milk diet; and those who are in anything like easy circumstances constantly drink either punch or wines, especially French; and our port, as yet, is brought to us entire from abroad; the vintners not having found out the way of brewing it at home. Hence, I presume, it is that we much seldomer see morbid degrees of obesity than you do; and from all the dissections of persons who have been carried off by the disease in question, it appears that an increase of fat is, at least, one predisposing cause. The immediate paroxysm, indeed, seems to depend on a spasm of the heart, which, we may well believe, can only take place in an inferior degree, as long as the patient continues to survive the fits; since a spasm here, of any violence or duration, must infallibly prove fatal. . . .” The keen observations embodied in the above quotation have been well corroborated by the collective experience of other physicians: that the disease is English above all things, one of high life and good feeding rather than of the opposite conditions, and occurring preferably in subjects with a tendency to fatty disposition, are facts attested by universal experience.

(To be continued.)

ART. XXIII.—*Clinical Pictures of Children's Diseases.* By
LANGFORD SYMES, M.R.C.P.I., &c.; late Clinical Assistant,
Deputy Medical Registrar and Pathologist, Hospital for
Sick Children, Great Ormond-street, London.

(Continued from page 401.)

DYSPEPTIC DIARRHŒA.^a

THIS common affection is frequently neglected until it has existed for a long time or has become alarming. We have seen that it is produced by feeding which is either improper, excessive, irregular or unwholesome, but also that in most cases fermentative changes are present from the toxic effects

^a Read before the Medical Section of the Royal Academy of Medicine in Ireland, on Friday, April 9, 1897.

of bacterial organisms which abound in their food. Violent irritation may also produce it, and the inflammation of a vaccinated arm originated one of the worst cases I have seen.

Dr. Soltau Fenwick, of the Evelina Hospital, lends his authority to emphasise these two facts :—

1st. That diarrhœa is the direct result of bacterial activity which produces abnormal fermentations, and inflammation of the stomach and intestines.

2nd. That the intestinal trouble is primarily dependent on gastric indigestion, and that this must be first set right. Selecting some of the chief attendant characteristics or "symptoms" we observe :—

1. *Restlessness*.—Peevishness, discomfort and fretfulness, wakefulness or irritability.
2. *Abdominal Pain*.—Gripping, sometimes severe colic, the child screaming and writhing until the bowels move. It wakes with pain, passes a loose motion, gets quiet after the stool, and, perhaps, falls asleep again. The so-called "lightning contractions" of Henoch.
3. *Frequent Stools*.—They are often grass green, resembling chopped spinach, and slimy. They may be watery, or, at first, normal and merely fæculent, always foul smelling and often very mucoid. Sometimes they are profuse—*e.g.*, ten a day for a child five years old. In one case the motions for eleven consecutive days numbered 3, 11, 15, 17, 7, 3, 1, 1, 3. They usually contain undigested food, and curdy flakes of casein are nearly always present.
4. *Thirst*.—The mouth is dry, and the child will usually drink water freely.
5. "*Facies*" of *Diarrhœa*.—If severe, the mouth of young infants is "pursed" to a round hole as if the child were going to whistle! The eyes are sunken and the skin is cold.

Then there may be vomiting, convulsions, twitching of the hands, sour smell from the mouth, and in severe cases collapse with a depressed fontanelle.

In diagnosis every organ should be examined to exclude other affections, and we should never forget the possibility of there being an intussusception. If there is tenesmus,

pain, great urgency, or a fulness in the iliac regions, suspicion must be cast on the case, and the rectum should then be examined with care.

Its duration may be from a few hours to a week or ten days. I have seen it end in very acute dysentery. Intertrigo from excoriation of the nates, and prolapsus recti are troublesome complications, and collapse of the lung is likely to occur, with all the dangers of feeble respiration. This disorder should not end fatally if well treated in a healthy child. Any chronic disease co-existing is most dangerous. For instance, a child of 5 years old, who was under my care for rheumatoid arthritis which crippled it for three years previously, was suddenly and unaccountably attacked with very bad diarrhœa which could not be arrested, and died in three days. In this case I had an opportunity of examining the bowel afterwards, but I found the entire intestine perfectly normal to the naked eye.

There is no characteristic *post-mortem* change. Those who have recorded fatal cases say many reveal no change at all, while some merely show a streaky ecchymosis here and there. It is natural to expect that during life these cases would present vascular injection of the coats of the bowel, but this, if it does exist, disappears after death.

Chronic Cases.—Sometimes a child is brought only after months of diarrhœa and emaciation. It is often popularly said to have “consumption of the bowels.” It is sometimes associated with chronic wasting disorders: syphilis, rickets, tubercle, and with whooping-cough or measles. Some cases exhibit after death foreign bodies swallowed by the child, chips of timber, shells, chalk, leaves, currants, &c.; while bad air, dirt, and exposure develop a considerable number. Deficiency of evacuation keeps up the mischief. Foul material lies in perpetual contact with the mucous membranes, and fermentation aggravates the condition.

These cases exhibit a different and more miserable aspect. The following will be observed:—

1. *Emaciation.*—Scarcely any disease wastes a child so much as prolonged and severe diarrhœa. The mother often “does not know why.” There is slow wasting, the child growing older, but not larger. It has a

pinched, "monkey-like face," and is stunted in growth, leaving the head only very large. Observe the *neck*. It is very thin. The child has a shrivelled skin, especially noticeable over the adductors of the thighs.

2. *Frequent Stools*.—Three, six, or eight per day. Sometimes many more. They are very offensive and often termed "putrid," having a sour, intolerable stench. Undigested food is passed with coagula of casein; mucus is voided in slime and shreds. They are sometimes large in proportion to food taken, and foreign materials may be seen in the discharge.
3. *Fretfulness*.—The child is nervous, sleepless, restless, and evinces bad temper, constantly "whingeing" or "grizzling" in a miserable manner.
4. *Œdema*.—Sometimes general anasarca is found in severe cases when the wasting is extreme. It is seen about the ankles, and the heart and kidneys may be perfectly sound.
5. *Pains* of a griping, colicky nature in the abdomen from distension or peristalsis, which latter may be visible, and followed by a loose motion.
6. *Flatulence*.

Then there may be prolapsus recti, appetite sometimes greedy and voracious, and the more it eats the thinner it becomes, as the stools are multiplied. "As soon as food is taken, it goes through it!" "The wasting now proceeds rapidly, the child gets hollow-eyed, wrinkled, and old-looking. His belly swells from flatulent distension. His limbs often become œdematous. He is excessively feeble. The urine is diminished in quantity if the purging is severe, and the child sinks into a state of exhaustion, and dies of asthenia."^a All the symptoms designated "spurious hydrocephalus" or "hydrocephaloid" disease may be present before death. They signify extreme exhaustion, the child lying insensible, with sunken eyes and irregular breathing.

The most difficult question to answer is—"Is it tubercular disease with ulceration of the bowel?" Tubercle is less frequent under two years of age, and rare under eighteen months. Tubercular ulceration may be suspected in a child

^a Dr. Eustace Smith.

over two years of age in whom diarrhœa is obstinate—there is much wasting, with pain after food; brown, watery, offensive stools, and borborygmi. In abdominal tubercle I have repeatedly noticed a peculiar expression in those cases which have chronic diarrhœa. Jadclot's lines are well marked, the child has a sickly yellowish face, exactly descriptive, to my mind (if you can imagine it), of having been given a "sour emetic." If many cases of abdominal tubercle with diarrhœa are examined, this sour emetic "facies" will be seen in a great number of them. It contrasts wonderfully with the rosy-apple cheeks of many other of these tubercular cases. Tubercle also has frequently a rough skin, with indican in the urine. I have also observed a peculiar tubercular smell on examining these children. It is striking, and is not a fæcal odour. Enlargement of the glands in the groins, axillæ, and triangles of the neck is very strongly in favour of tubercle.

Diarrhœa may, of course, accompany other diseases, which must be sought for—*e.g.*, lardaceous, malignant, splenic, or uræmic conditions.

Frequent relapses and the gradual but continued loss of strength renders the child physiologically bankrupt, and it dies exhausted by the drain on its system. Chronic diarrhœa with ulceration of the bowel is a very favourable condition for the infection of tubercle, the unhealthy individual being unable to resist its attack.

Co-existence of disease renders recovery doubtful. Rickets, syphilis, tubercle, scurvy, or diarrhœal affections in the family are bad. The older the child the better the chance. Œdema signifies a severe case, and collapse is always dangerous.

There is a peculiar appearance often found in the bowel of children dying from diarrhœa—*i.e.*, a slaty blue or black dotted condition in large patches. It has the exact appearance of a "shorn beard." It has been attributed to altered blood lying around the minute ulcerations of the solitary glands, and if once seen cannot be forgotten.

There may be also enlargement of the solitary glands with abrasion, or ulceration, or large extensive ulcers. Tubercles may also be seen, but there is no constant change found.

NOTE.—This dyspeptic diarrhœa is variously described in older works under the titles “Muco-enteritis,” “Mild intestinal catarrh,” “Catarrhal enteritis,” “Non-inflammatory diarrhœa,” “Mechanical diarrhœa,” “Irritative diarrhœa,” “Acute intestinal indigestion,” and “Simple diarrhœa.” The more chronic cases are spoken of by authors as “Chronic entero-colitis,” “Chronic catarrhal diarrhœa,” “Chronic intestinal catarrh,” “Chronic irritative diarrhœa,” and “Chronic intestinal indigestion.”

INFECTIVE DIARRHŒA.

This disease, as we have seen, has only lately been understood. It may be taken in a measure as a sanitary index of large towns. Everything points to its bacterial origin, and we can no longer doubt but that it is microbic.

The profound nervous prostration out of proportion to the amount of diarrhœa, and the deaths of many after all discharges have ceased, strongly point to a definite poison. It is, in most cases, directly produced by infected milk. Some of these poisons have been isolated. Dr. Vaughan has separated from poisonous and stale milk a crystalline substance, called by him “tyrotoxin” (cheese poison). This produces vomiting, purging, collapse, and death in a short time, leaving no change *post mortem* but blanching and softening of the intestinal mucous membrane, precisely similar to the condition found after “choleraic diarrhœa,” which this disorder in question is sometimes called. Drs. Vaughan and Booker have also isolated several poisons from cultures derived from the intestines of choleraic infants. Hypodermic injections in kittens, puppies, and guinea pigs speedily produced vomiting, purging, collapse, and death. The varieties described as summer diarrhœa and cholera infantum are only ones of degree, and great simplicity is obtained by terming them both infective diarrhœa. They are pathologically identical, and the symptoms are due to direct absorption of organic poisons from the stomach or intestine. The line of demarcation between them is indefinite and useless.

This complaint sometimes rages as an epidemic. It practically never occurs in breast-fed children (at least in only

three per cent.). Whitla emphatically says, "Sterilised milk is a perfect safeguard against ordinary summer diarrhoea and the more severe cholera infantum." We can understand that it is rarely seen in country districts.

Neglect or deficiency of ventilation seems to be a very important cause, and the bacteria in question appear to inhabit the superficial layers of the earth, becoming widespread when the temperature reaches 58° F.

The symptoms of a severe infective diarrhoea are most remarkable; its severity is appalling. Selecting the five most important we observe:—

1. *Collapse and Stupor*.—There is gradually increasing unconsciousness; the child lies in a drowsy, listless, apathetic state, with half-closed eyes, as if it was dosing or half-asleep. It may be actually comatose or even moribund when seen. The eyes are dull, hollowed, and deeply sunken into the scooped-out orbits, and the cornea is smeared with a mucoid film. This opacity and dimming of the cornea is believed by Hensch to be a fatal sign, its tissue being dried up, and certainly most cases of cholera die. The fontanelle is depressed and hollowed, and, if extreme, the bones of the skull may overlap from the shrinking of its contents. The pulse is small, thready, excessively feeble, and fast, and often we fail to find it, or to count it when perceived. The respiration is shallow and weak, but sometimes resembling Cheyne-Stokes breathing in the loud exaggerated sigh which is occasionally drawn. The features are much drawn, pinched, and shrunken, the nose being sharpened and the cheeks falling in. They are frequently shrivelled and corpse-like. The face is faintly livid and old-looking, and the dark shadow round the sunken eyes, with the pallid, earthy complexion, gives the child a deathly cadaverous appearance. The skin is clammy and the extremities very cold. It is possible that this condition may be mistaken for cerebral effusion, but they are very different. This collapse from severe diarrhoea is strikingly characteristic. It exactly resembles a case that has almost "bled to death." In past years it certainly has been mistaken for cerebral effusion and termed the hydrocephaloid state, but out of a very large number that I have seen and carefully noted, only one in

particular has struck me by any very serious resemblance. It was that of a child who had been in bed for some days for summer diarrhœa. It became worse, and instead of finding it awake and fairly bright on visiting it next day it was comatose, breathing irregularly; it had vomited; its eyes were turned up under the lids, and there was a faint flush about the face. Since last seen a casual observer, standing at the foot of the bed, would have said that cerebral effusion had come on.

It is peculiar cases such as this that, no doubt, led to the designations "hydrocephaloid disease," or "spurious hydrocephalus," and to the errors sometimes made in diagnosis, but this collapse from continuous diarrhœa in young infants when once seen can hardly ever be forgotten. The cerebral symptoms are due to the enfeebled circulation in the brain, and the most extreme general debility. To my mind it closely resembles a case that had bled excessively—and in reality it is so—except that the flux has been through the channel of the intestine. A little thought will, therefore, distinguish it from meningitis, since there is—

No ocular paralysis.

No rise of temperature.

No headache.

No tension or bulging of the

No rigidity or retraction.

fontanelle.

No constipation.

It is necessary only to mention these to show the extreme difference between the two conditions, and because in past times they have been confounded. This collapse in fatal cases leads on to deeper coma and death, with perhaps a few faint convulsions or twitching of the limbs, and the child's life goes out like a lamp.

2. *Sudden Vomiting*.—At first the contents of the stomach and then watery mucoid fluid.

3. *Purging*.—Sometimes continuing incessantly with the vomiting till the child is profoundly collapsed and dies in a few hours. The motions very quickly pass from ordinary loose fæculent stools to watery serous or rice water discharges. They have a "musty" odour, but are not offensive. They may be very profuse, ten to twenty or more stools being copiously voided in twenty-four hours; often when first seen the diarrhœa has been raging for several days, and the child

is brought on account of its collapsed condition. In these cases there may really be no motions when seen by the physician, and it must be recollected that many children will die thus, after the vomiting and purging have ceased. The discharge is almost pure blood-serum, and scarcely stains the napkins, and it is usually devoid of colour.

4. *Thirst*.—This is extreme from the loss of water. The child cannot speak, but lies on its back sucking or tasting its lips, often opening its mouth, expressing its feelings graphically, and greedily swallows spoonfuls of water when given.

5. *Rapid Wasting*.—Scarcely any disease wastes a child so quickly. It is sometimes extreme. There is loss of muscular tone, and flabbiness, the child is perfectly “limp,” the soft parts are shrivelled down upon the bones, and the body is dwindled and shrunken. Wasting is best seen on the inner sides of the thighs. The skin is inelastic and hangs in folds.

Albuminuria is stated by Von Hofsten to be a characteristic symptom, and he states he has observed it in 998 cases. The urine is certainly scanty, so much so indeed that there is difficulty in collecting it.

These children when seen are sometimes so completely collapsed and moribund that a regular physical examination would almost certainly kill them unless very gently conducted, but fortunately the symptoms are evident upon inspection. They are all signs of terrible gastro-intestinal irritation.

The diagnosis can hardly be mistaken. Cerebral effusion may perhaps be simulated by a case now and then in the so-called “hydrocephaloid” condition if it is suddenly sprung upon the practitioner in this state, but they are very distinct. The chief contrasting or opposing conditions are:—

<i>Hydrocephaloid state from Diarrhœa.</i>	<i>Cerebral Effusion (as in tubercular meningitis).</i>
Diarrhœa.	Constipation.
No ocular paralysis.	Ocular paralysis and squint.
No rise of temperature.	Slight feverishness.
No headache.	Headache (if old enough to complain).
No tension or bulging of the fontanelle.	Bulging fontanelle.
No rigidity.	Rigidity and retraction in many cases.
No retraction.	

I have seen one case closely simulate acute irritant poisoning, and present many of its signs after death as well.

Another form of "hydrocephaloid" I have seen in older children—about seven years of age—where a child may be brought perfectly collapsed, with headache, vomiting, confined bowels, sensible when roused, but delirious at night. These symptoms strikingly resemble cerebral mischief, but may all arise suddenly from food-poisoning—an abdominal case closely simulating cerebral effusion.

The great danger is the collapse. The younger the child the graver the case. Evacuation is nature's method of relief, but the child may die during the eliminative process. It frequently dies of the poisoning, and not of the flux.

The prognosis in collapsed cases is exceedingly bad. They almost invariably die. Their life seems to flicker out like a lamp.

The morbid appearances in cholera infantum reveal nothing characteristic and constant.

The following are notes of some *post-mortem* changes which I have found:—

CASE.—A. P. was a child of seven months, who had diarrhoea and vomiting for fourteen days. It was quite well till then, and died two hours after I saw it. It had never been breast-fed, but was brought-up on cow's milk and barley water, and the milk was not boiled. No cause was known.

Twenty-six hours after death the body weighed 7 lbs. 12 ozs. Emaciation, rigor mortis just present, cervical glands, pharynx, œsophagus, larynx, trachea, all normal but pale. Bronchi contained considerable quantity of muco-pus. Lungs—a good deal of collapse of edges of both anterior lobes, and a great many patches of milky-white emphysematous lung overlapping and lying on collapsed portions, and raised high from the surface. The right anterior apex showed a triangular piece of brilliant scarlet colour, solid, and full of bright red blood.

The heart was normal, pale. Right and left cavities both contained whitish clots adherent to the muscoli papillares, and entering the aorta and pulmonary artery.

The intestines were very small and contracted—might be compared to a bag of worms of a pale purplish colour. Rectum and colon were stained inside of a port wine colour; the whole alimentary canal was absolutely empty. The lower end of the

ileum showed a scarlet patch 2 by 2½ inches just above the valve. The jejunum was of a bright golden colour internally, which washed off.

The stomach was contracted and empty, almost dry, and very white and pale.

The liver was normal, ducts free, bile very dark, and not golden like the material seen in jejunum.

The spleen, bladder, kidneys, and suprarenals were normal. The bladder was empty. No tubercle was seen anywhere. The brain was not examined.

There are always signs of terrible collapse in the features, even though the body may be fairly nourished.

In a male child of three months who died from it, twenty-four hours after death an examination revealed—

“Weight 6 lbs., emaciation, a little moisture in the bronchial tubes, with emphysema of the upper portions, and collapse of the bases of both lungs, a clot in the right ventricle of the heart, the dark bluish black dotted or ‘shorn beard’ appearance of Peyer’s patches, and a little ropy mucus in the stomach.” All the other organs perfectly normal.

Again—a female child of seventeen days weighed 6 lbs., was emaciated; there was no rigor mortis; the œsophagus was very red and inflamed in the lower two-thirds; the stomach and duodenum was red and inflamed to an extreme degree (almost suggesting irritant poisoning); the bronchi were also red and inflamed with some muco-pus in the tubes; there was emphysema of the upper and anterior portions of the lungs, with collapse behind, and all the other organs were normal. The foramen ovale was just closed, but obliquely patent still.

NOTE.—This infective diarrhœa is variously described in literature as “Summer diarrhœa,” “Milk infection,” “Gastro-enteritis,” “Gastro-intestinal catarrh,” “Inflammatory diarrhœa,” “Zymotic diarrhœa,” “Epidemic diarrhœa,” “Ptomaine poisoning.” In its most intense manifestations it is recorded as—“Cholera infantum,” “Acute gastro-intestinal catarrh,” “Choleraic diarrhœa,” “Infantile cholera,” “Cholérine,” or “Acute milk infection.”

(To be continued.)

ART. XXIV.—*Ecphyma Globulus.* By H. S. PURDON, M.D. ;
Consulting Physician to the Belfast Hospital for Diseases
of the Skin, &c.

I WISH to preface the following note by first asking if *Ecphyma Globulus*, so named by Dr. Burgess and called by the Irish peasantry "Button Scurvy," is extinct? In the year 1872 I recorded, in the *Journal of Cutaneous Medicine*, Vol. IV., page 125, a notice of a case of supposed "button scurvy," and remarked that said complaint was common in the southern and western parts of Ireland during the famine years 1847, 1848, and 1849. My case was that of a girl—pale, anæmic, &c., living in one of the low and unhealthy lanes of Belfast, off Carrick Hill, since entirely swept away by our city Corporation, her cutaneous disease being characterised by an eruption of isolated excrescences, best marked on arms, presenting a convex surface somewhat resembling an ordinary button. These excrescences were about the size of a farthing. On comparing the case with a water-coloured drawing of the late Dr. M'Munn, showing the various stages of "button scurvy," the resemblance was striking. My friend, Dr. Frazer, F.R.C.S.I., of Dublin, in his valuable little book, "Treatment of Diseases of the Skin," Dublin, 1864, remarks, page 17, that "button scurvy" was common enough in Ireland during the Famine years, 1847 and 1848:—"There are no grounds (he says) for considering it (button scurvy) in any way allied to syphilis, or a modification of that disease, for it is never followed by secondary symptoms; yet *it is contagious*, spreading from direct contact or by means of garments soiled with its discharge. The eruption is liable to occur on any part of the body, except hands and feet. It first originates in a slight elevation or tubercle, not discoloured, dry and covered with unbroken skin. After a time this increases, the surface becomes darker and slowly softens. At last prominent red tumours are formed, resembling raspberries in appearance, though flatter and of larger size, which continue an indefinite time, but soon heal with the free use of nitrate of silver. Sir Philip Crampton treated this disease with dilute citron and tar ointment"

(both parasitocides). However, Dr. Frazer has seen several cases of the disease under notice, and thinks that it resembles framboesia or "yaws" of the West Indies. I believe that during the last 32 years I have been in practice two cases of a similar nature have come under my notice at Belfast Hospital for Diseases of the Skin.

PERIOD OF INFECTION.

THE following rules have been adopted by the Pennsylvania State Board of Health, laying down the duration of infectiveness after certain diseases:—*Small-pox*.—Six weeks from the commencement of the disease, if every scab has fallen off. *Chicken-pox*.—Three weeks from the commencement of the disease, if every scab has fallen off. *Scarlet Fever*.—Six weeks from the commencement of the disease, if the peeling has ceased, and there is no sore nose. *Diphtheria*.—Six weeks from the commencement of the disease, if sore throat and other signs of the disease have disappeared. *Measles*.—Three weeks from the commencement of the disease, if all swelling has subsided. *Typhus*.—Four weeks from the commencement of the disease, if strength is re-established. *Typhoid*.—Six weeks from the commencement of disease, if strength is re-established. *Whooping-cough*.—Six weeks from the commencement of the disease, if all cough has ceased. Under judicious treatment the periods of infectiousness may be considerably shortened. *Length of Quarantine*.—Teachers, or children, who have been exposed to infection from any of the following diseases may safely be re-admitted to the school, if they remain in good health (and have taken proper means for disinfection), after the following periods of quarantine:—Diphtheria, twelve days; scarlet fever, fourteen days; small-pox, eighteen days; measles, eighteen days; chicken-pox, eighteen days; mumps, twenty-four days; whooping-cough, twenty-one days. Adults may be admitted immediately, if they disinfect their clothes and persons.—*Med. Rec.*

CHILD LIFE INSURANCE.

A BILL to abolish child life insurance in Massachusetts has been defeated in the lower branch of the Legislature, by 148 votes against 23, after having passed the State Senate.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

ANNUAL REPORTS OF LUNATIC ASYLUMS.

1. *Twenty-seventh Annual Report of the Resident Medical Superintendent, and Statistical Returns of the Down District Asylum, Downpatrick, for Year ending 31st December, 1896.* Downpatrick: 1897. Pp. 69.
2. *Sixty-second Annual Report of the Waterford District Lunatic Asylum for the Year ending 31st December, 1896.* Waterford: 1897. Pp. 57.

1. THE Down District Asylum held 532 patients on the last day of 1895—279 males and 253 females. There were 128 admissions—57 males, 71 females—in 1896; 72 were discharged; 35 died; and the Asylum insane population at the end of 1896 was 553—293 males and 260 females. No one will be surprised to hear that the legitimate accommodation of the institution was largely exceeded. The excess amounted to 23 males and no less than 110 females. It does, however, cause some surprise to learn that increased accommodation will soon be provided; and other structural improvements of great value are almost completed. The capacity of the asylum will be increased to 576—288 males and 288 females. Perfection will not even then have been attained. "Assuming," Dr. Nolan says, "that all this accommodation were at our disposal on the 31st of December last, there would have been 28 vacancies on the female side, while on the male side there would have been an excess of five patients resident." Dr. Nolan continues to maintain that lunacy is not increasing. "In previous Reports," he writes:—

"The opinion was expressed that notwithstanding the large increment of lunatics in asylums there is no considerable real increase in insanity through the country generally. The official Reports of the past year confirm this opinion, and in reiterating it

the subject may be touched on for two reasons.—in the first place, because no question can be more important to you collectively as the Board of Governors of an Asylum; and in the second place, because a section of the lay and professional Press have questioned the accuracy of a view so much at variance with what they assert to be the true state of affairs. The current number of a monthly magazine, in an article entitled, ‘Which is the maddest part of the Kingdom?’ answers by statistical diagrams ‘Ireland’; but the author very properly ascribes the proportionately greater number of the insane in this country to *accumulation*. He also points out that ‘if we deal only with the *fresh lunatics admitted yearly*, . . . Ireland does not show nearly so bad a record as on the basis of total lunatics to total population.’ The question, moreover, has engaged the attention of the late and present Government, and is no less prominently under consideration on the Continent and in America. To the contention put forward last year that insanity is no more on the increase than cancer, eye diseases, or lung affections, it has been retorted that statistics go to show that those latter diseases *are* on the increase, to the extent, at least, that the figures given indicate. There is no doubt that improved methods of diagnosis, increased opportunities for treatment, and the extension of pathological research, have brought all these maladies more within the ken of medical men, who are responsible for these statistics; but that fact in no sense goes to prove that any one of the diseases mentioned has itself increased *per se*—extended intelligent observation has simply caused them to be more generally recognised.”

In support of his views Dr. Nolan quotes the following from the 45th Report (1896) of the Inspectors of Lunatics (Ireland) on the Increase of Insanity:—

“It must, however, be specially noted that while the number under care shows this large increase, the number of first admissions to District Asylums, which may be considered to represent the number of freshly occurring cases of insanity in the country, is exactly the same as in the year 1893, and shows an increase only of 7 over the corresponding figures for 1890, our first year of office, and of 10 over last year.

“The figures given strongly favour the opinion expressed in previous reports that the alleged increase of insanity in this country is mainly due to accumulation, and is, so far, an apparent and not a real increase. Such accumulation, it may be observed, is likely to continue and increase, owing to the diminishing death-

rate, subsequently referred to, amongst the patients of our District Asylums."

The General Board of Lunacy for Scotland, reporting on the Causes of the Increase of Pauper Lunacy, dilutes the same opinion in a wash of words; and the State of New York Commission on Lunacy, in its 7th Annual Report (1896) says:—"So far as the Commission is able to see, the current notion that insanity is increasing out of proportion to the normal increase in population, has little, if any, real basis to rest upon."

2. It is, perhaps, the most remarkable fact about the Waterford District Asylum that the patients are not in excess of the accommodation—the limits of accommodation being 520, while the number of patients on the 31st December was only 392. Large additions to the buildings have been recently made. Unfortunately, admissions appear to be increasing too. "The number of admissions, 92—41 men and 51 women—is higher than the average, being 14 in excess of the admissions during the previous year; but it was exceeded during the past twelve years. . . . This increase on the admission side accounts in great part for the addition to the numbers resident, there not being a corresponding increase on the side of discharges and deaths to prevent the accumulation which must inevitably occur under such circumstances. This accumulation comes to about 31 per cent. every year on an average of years."

We observe that sewage irrigation of land, apparently in the immediate vicinity of the asylum, was begun in the February of last year. It is an experiment which will need wary watching. Dr. Atkins is of opinion himself that to ensure its success considerable addition should be made to the land which receives the sewage, "as the soil, being of a dense loamy nature, does not rapidly absorb moisture, but allows the fluid to accumulate in pools, which, after a time, become unpleasant." Perhaps more than "unpleasant"? A number of cases of "gastric trouble"—"acute functional derangement of the stomach and intestinal tract"—occurred "all at one time during the summer, without any definite assignable cause." Dr. Courtenay,

the Inspector, says that to make the system “work satisfactorily a larger area must be utilised, and the land prepared so that the effluent may be carried off at once.” Mr. Nelson, one of the Visiting Governors, “walked over the field in which the sewage is spread (it is now almost saturated), and, I fear, in the dry weather it will be found to give out a very unpleasant odour.” We should add that Mr. Fortescue, also a Governor, reports, in September, that “the sewage irrigation is now carried on without giving any grounds for objection, and with striking results in respect of produce.”

Transactions of the Royal Academy of Medicine in Ireland.

Vol. XIV. Edited by WILLIAM THOMSON, M.A., F.R.C.S.,
General Secretary; Surgeon to the Richmond Hospital,
Dublin. Dublin: Fannin & Co., Ltd. 1896. Pp. 420.

WE regret to observe that our Academy of Medicine is not increasing in numbers. It is specially to be regretted that students do not take to it. Attendance at its meetings could not fail to be useful to them. They do not seem to think so. There were three Student Associates in Session 1894-95—all three ladies.

There does not appear to be any falling-off in the number or value of the papers read before the Sections of the Academy. Fifty papers were presented, Medicine having the lion's share. In two of these Dr. J. W. Moore and Sir C. Cameron discuss, from different, if not opposite, points of view, the question of the Dublin provision for infectious fever cases. In the Surgical Section, Mr. R. H. Cox described an instrument which he had invented for “locating the important areas of the cerebral cortex on the overlying surface of the scalp.” The instrument and the method of using it received high approval from the President of the Section and of the College of Surgeons (Sir Thornley Stoker), and from Dr. Heuston; and also from eminent anatomists—Professors Cunningham and Fraser. The present President of the College of Surgeons, Mr. William Thomson, contributed a valuable practical paper on Cancer of the Breast, to which, with the discussion

which followed it, we venture to call special attention. The author looks hopefully to greater success in the future in the operative treatment of this "curable affection in a fair percentage of cases."

Lectures on Pharmacology for Practitioners and Students.

By DR. C. BINZ, Ord. Professor and Geheimer Medicinal-Rath; Director of the Pharmacological Institute in the University of Bonn. Translated from the second German Edition, by PETER W. LATHAM, M.A., M.D., Fellow and late Senior Censor of the Royal College of Physicians, London; Senior Physician to Addenbrooke's Hospital. Volume II. London: The New Sydenham Society. 1897. 8vo. Pp. 451.

IN our notice of the first volume we have sufficiently indicated the scope and style of this work. In the opening section of the present volume there is an interesting account of Condurango bark and its use in cancer. Professor Binz speaks highly of the action of the drug upon the stomach, but guardedly in respect to its supposed curative action in cancer. His views and ours are summed up in these words:—

"In some cases of supposed cancer the tumour has diminished or disappeared after its use, in other cases no change has taken place. Nausea, vomiting, and pain have very frequently been considerably relieved by the prolonged use of this bark. The appetite, the digestion, the general condition and weight of the patient have improved. Consequently the continuous use of the bark is indicated in all cases of cancerous disease of the digestive canal, as well as in other affections of these organs in which there is any suspicion of cancerous mischief. The earlier the remedy is exhibited the better is the chance of success. Only large doses are of any service, the decoction or extract of 7 or 8 grammes (about 100 to 120 grains) of the bark must be given daily." (Page 16.)

The decoction must be expressed from the bark whilst hot. The "Extractum Condurango Fluidum" is prepared by macerating the bark with alcohol, water, and glycerine. Two or three teaspoonfuls may be taken daily.

Dr. Latham has performed his task of translation ably

and well, but the pages of the book are sullied by several printer's errors, such as "Antimonium Tartartum" (318), "Mixture" (304), "Carthartics" (348).

In a list of "Errata" at the end of the volume we find the correction "for *arsenietted* read *arsenitted*" but the correction is more faulty than the original. The word which should be used is "arseniureted" or "arseniuretted."

We have to express our regret that the nomenclature of the German Pharmacopœia has been adopted. Such expressions as "Tartarus stibiatus" (page 318), "Stibium sulphuratum aurantiacum" (322), "Apomorphinum hydrochloricum" are somewhat puzzling to English readers. The translator also adopts the spelling "Sirupus" for "Syrupus," the latter actually being included in the list of errata. Surely, it was unnecessary to correct page 42 in this way—"for *Syrupus Ferri Iodati* read *Sirupus Ferri Jodati*."

At page 378 we have a most interesting and valuable description of the employment of glycerine internally for the cure of trichina disease.

Dr. Latham always uses the word "officinal" for "official." Drugs that are officinal are those which are sold in the shops, whereas "official" drugs are those which are included in the Pharmacopœia.

In a concluding section Dr. Binz directs attention to the methods by which the objects and aims of pharmacology may be attained. To him it appears that the benefit and cure of a patient should not be the exclusive aim of our scientific investigations. We should also seek to discover what results are produced in the living organism, and especially in the animal organism, by certain substances which act chemically, without reference to any therapeutic effects which such substances may have. At the same time he admits that a *human being who is suffering from disease* cannot, in any way, be regarded as a fit subject for experimental investigations. Healthy animals are incomparably better suited for this purpose than man, and from the study of disease in animals much instruction may be gained. A wide field has been opened up and a great impulse has been given to pharmacological research by the study of the lowest organisms as the

exciting causes of disease. Finally, Dr. Binz strongly holds that, as of old, we should still be guided by *clinical experience*.

To summarise: the work of the Bonn professor is refreshing from its novel and unconventional character; it is eminently scientific but no less practical; and it cannot fail to be instructive.

The Matron's Course: An Introduction to Hospital and Private Nursing. By MISS S. E. ORME, Lady Superintendent, London Temperance Hospital. London: The Scientific Press. 1897. The Burdett Series. No. 2, Cr. 8vo, Pp. 87.

IN this useful little manual Miss Orme puts Hospital Nursing in its true light as a stern reality, and its pages should be studied thoughtfully by all who wish to become nurses. She gives us concisely the special qualifications required—observation, forethought, presence of mind, gentleness, accuracy, good memory and good health, with excellent advice as to the preservation of the latter and the refreshing of mind and body in off-duty hours, by mixing in the outside world, and keeping up an interest in public affairs.

The nurse who is methodical and complete in work saves hurry, and will at least *seem* to have time for all her patient's needs, putting herself in his place and never allowing her own sensibilities to become blunted, or countenancing this tendency in others. Economy is to be studied and practised; waste can arise only where there is uneven balance, unrecognised responsibility, and serious want of discipline. The hints as to the administration of medicine and foods, with many valuable and simple recipes, will prove most useful, as will those on the ventilation and warmth of the wards and rooms in which the sick are nursed. There is a chapter devoted to the nursing of Typhoid Fever, giving much necessary information in a few pages. The whole book speaks of the true nurse, and is full of the milk of human kindness, womanly tenderness, and practical good sense.

PART III.

SPECIAL REPORTS.

REPORT ON NERVOUS AND MENTAL DISEASE.^a

By RINGROSE ATKINS, M.A.; M.D.; Resident Medical Superintendent, District Lunatic Asylum, Waterford.

I. CEREBRO-MENTAL DISEASE FROM THE ÆTIOLOGICAL AND CLINICAL STANDPOINTS.

The Rôle of Auto-Toxis in the production of Insanity.—At a general meeting of the Medical Society of London, held on May 11th last, Dr. Allan M'Lane Hamilton, of New York, presented a contribution on this subject. He had conducted clinical observations and experiments on animals to determine whether there was any specific or noso-toxicity of the urine of the insane, and if so, its nature; next to discover how important and general was the theory of uric acid poisoning; and, again, whether mental disorders were produced and modified by an auto-toxæmia, whether the offending substances were the leucomains or the intrinsic products of putrescence in the intestines. With regard to the existence of noso-toxosis, observations on six patients proved negative, and in rabbits the results were neither constant nor characteristic. The resulting effect seemed to depend upon the increased specific gravity of the urine, and on the evidences of intestinal disorders and malnutrition. The urine of the paretic was always exceedingly toxic, which property was possessed by that of the periodic patient whose urine showed a large amount of indican, while in only one of the other cases of mania in which the specific gravity of the urine was high was any result obtained by the injection. In regard to uric acid poisoning, he was convinced that it had not so much to do with the genesis of mental disease as

^a The author of this Report, desirous that no contributions to the subject of Nervous and Mental Disease should remain unnoticed, will be glad to receive any publications which treat of it. If sent to the correspondents of the Journal they will be forwarded.

had been claimed for it. The experimental use of hypoxanthin on rabbits and monkeys had been followed by effects in only one subject. His cases unquestionably bore out the assumption that disturbances of the gastro-intestinal tract were attended with bacterial necrosis, and the introduction into the general circulation of certain very virulent toxic agents, whose effects were expended mainly on the nervous system. A sudden and rapid development of incoherence with malassimilation, highly-coloured urine, and delusions that were unsystematised, clearly suggested an inquiry into the condition of the organs of digestion, and the first step should be a complete examination of the urine and fæces. The presence of indican in the urine of the insane has great significance, for in all the cases that were not simply evolutionary it had been discovered in excessive quantities, in connection with the development or as a feature of an exacerbation of an existing mental disorder. An excessive amount might be taken to mean any amount susceptible of detection by Jaffe's test. In melancholia the amount of indican depended upon whether the disease was of the stuporous or agitated variety, the quantity not being nearly so great in the former. Variations in the hæmoglobin and red corpuscles were closely associated with the absorption of toxic substances, the extent of which was announced by the increase of the combined sulphates, while the physical appearances were those of malnutrition. Undoubtedly many puerperal insanities, especially those of the maniacal variety, were due to fæcal accumulation. Alcoholic insanities, as well as other forms, whether acute or chronic variations prevailed, must be studied with regard to the condition of the intestines. The management of these cases not only included the provision of an absolutely suitable diet, but the use of antiseptics and mechanical means for cleansing the alimentary tract. It had been shown that the lower bowel was usually the seat of infection, hence the necessity of thoroughly washing out from as high a point as possible, using a long rectal tube. Salicylate of sodium had been found the most reliable intestinal antiseptic. In replacing the diminished hæmoglobin and red corpuscles best results had been obtained from a mixture of glycerine of the red marrow of small bones with bullocks' blood.

Dr. Hamilton arrives at the following conclusions :—

1. Urines rich in indican contained very little or no pre-formed sulphuric acid, and were toxic.

2. When the sulphate ratio is materially changed it probably indicates auto-toxis, in connection with an increased amount of combined or ethereal sulphates.

3. Such indications were generally found with acute insanities in which rapidly developing symptoms occur.

4. Changing illusions and hallucinations, unsystematised delusions, confusion, with verbigeration in connection with insomnia, pallor, intestinal indigestion, constipation and rapid exhaustion are due to auto-toxis.

5. Paranoïac states, or those in which concepts are the features, chronic stuporous conditions and certain forms of dementia have little to do with the formation of intestinal products of putrefaction.

6. Various post-febrile, traumatic, alcoholic or drug insanities are those in which auto-toxis is most constant.

7. Variations in excretion of combined sulphates keep pace with the changes in the progress of an established insanity, epileptiform attacks being directly connected with putrefactive processes.

8. The most successful treatment consists in lavage, intestinal douches, gastric and intestinal antiseptics, by means of hydrochloric acid, borax, salicylate of sodium, charcoal, guaiacol, or naphthalin in small and repeated doses, and the administration of a combination of the red marrow from the small bones, blood and glycerine.

Puerperal Insanity.—From an analysis of eighty-eight cases, and a general discussion of the subject, Pianetta (*Annali di Neurologia*, XIII., Fasc. III., VI.) concludes as follows :—

1. That the so-called puerperal insanity, and especially that type developing during pregnancy, is rare.

2. That its occurrence cannot be ætiologically attributed to any specific influence of the puerperal conditions—either pregnancy, the puerperal state properly speaking, or lactation—but that these are rather to be considered as occasional causes of the disorder.

3. That the mental disorder developing during the puerperal state has no special characters sufficient to separate

it from other forms of insanity independent of the puerperium, either in its clinical manifestations or its course and termination, and it frequently appears under the forms of maniacal and stuporous confusional insanity.

4. That its prognosis is generally favourable, and its treatment should be that of mental diseases in general, and especially be based on the ætiological data, and the special form in which the disorder appears in each case.

Paranoia and Dementia.—At the session of the Psychiatrischerverein of Berlin, March 21st, 1896, Neisser (of Leubus) read a communication on this subject, which is thus reported in the *Neurologisches Centralblatt* for May 1st:—

In a recent paper on Querulantenwahnsin (morbid desire for litigation) Hitzig places himself on the side of those authors who affirm the essential presence of dementia in the so-called paranoiac. He says, “According to the views of the authors with whom I do not agree (Ziehen, Wernicke, Cramer and Neisser) the patient possesses his full mental capital, only on account of certain morbid processes he cannot use it like a sane man; he has no defect of intelligence, and mental weakness is only apparent, not real. In my opinion, and that of a number of other authorities, he does not possess his full mental capital, and suffers from a defect of intelligence.” If one wishes to have a common ground for the discussion of this question, it must be well understood what is meant by paranoia in its more limited signification. In giving a brief historical statement as to what the authors understand by paranoia, Neisser concludes that German authorities have included under this head a number of quite different things. He excludes from the type the following forms:—

1. The so-called “Originaeren,” characterised by their exhibiting certain peculiarities that reveal their constitutional nervous degeneracy, and that in them the existing paranoiac symptoms are not pure, but are perceptibly modified. These individuals are also from the beginning liable to spontaneous emotional disturbances, have an exceptionally developed imaginative activity, and with them a part of the psychic processes is affected outside of the range of consciousness, so that the sequence and consequence of ideas

and feelings are in some measure broken and interrupted. These signs indicate that these cases of originaire Verrucktheit fall into place near to the constitutional neuro-psychoses of hysteria and epilepsy. In them we find actual general primordial delirium in Griesinger's sense, the occurrence of which, in cases of chronic paranoia, as limited by him, Neisser would dispute.

2. Neisser distinguishes further the numerous and various conditions where in an uncongenital or acquired psychopathic basis there are certain dominating ideas, such as are frequent in hypochondria.

3. This so-called "Residualwahne," in certain phases of which the resemblance to chronic paranoia is externally quite marked.

4. The so-called secondary forms such as follow mania and melancholia.

5. All acute forms.

There remains a still large and clearly-defined group of cases, the chief clinical characteristic of which is the occurrence of chronic illusions from the beginning to the end of the disease.

Neisser does not consider the separation of chronic hallucinatory paranoia from the simpler form as justified; at least he has never seen a case run its course without hallucinations. Chronic delusions without hallucinations only occur in the so-called Querulantenwahnsin.

As regards the question of mental impairment in paranoia there is from Griesinger, who first took up the subject closely, down to Hitzig a considerable range of views among those who hold to a defect of intelligence.

According to Griesinger, the delusions of the paranoiac succeed a primary melancholic or maniacal stage. The general weakness shows itself in a dulling of the emotional reactions and the energy of the will, which has its origin in a loss of a whole series of conceptions, from the earlier life of the patient. The chief mistake of Griesinger is that he has not truly comprehended the chronic process of delusive growth, but takes instead a series of fixed delusional ideas, the origin of which he explains by the general pronounced impairment in the spheres of feeling will and ideation.

Koch, who has done good service in combating the belief

in the fixed nature of the delusions by proof of their variability, likewise claims that Verrucktheit tends to psychic weakness, not always quickly to a great extent, but still generally to a defect in the emotional life and the will. The delusions also of the paranoiac do not often produce in him from the beginning the impression one would expect and that they would certainly produce in a sane person, who would be inclined to doubt what the paranoiac believes, even should it actually occur.

Jastrowitz takes the stand that chronic paranoia passes over into dementia, and that even in the early stages marked symptoms of this may occur, but thinks that the delusions themselves ought not to be construed as mental weakness. The impossibility of the task given by Jastrowitz of picking out the perfectly mentally sound chronic paranoiac from a great crowd of patients in itself proves nothing as to the existence of a defect of intelligence or mental weakness. If we could at one magic stroke take away every delusion from a chronic paranoiac he would still be insane as he was before.

With Kraepelin the simple fact that the chronic paranoiac cannot correct his delusions is sufficient evidence of mental weakness. The critical faculty is lost in these patients; therefore they are all mentally weakened. This statement of Kraepelin's rests, according to Neisser, on very poor foundations, both psychologically and clinically. He considers that experience does not afford the slightest basis for the correctness of the assertions made by him.

Hitzig, in his memoir already referred to, defines the mental weakness of the paranoiac as a condition of permanent mental defect, which predominantly, but not exclusively, affects the activity of the understanding. He accepts Ziehen's exposition in so far as it makes the defect of intelligence assert itself in poverty of conceptions and associative combinations. Neisser, in opposition to these observers, cannot admit that mental weakness is an essential feature of chronic paranoia. Especially is the statement that weakening of the cortical activity is a necessary precedent to the occurrence of delusions unsustained both theoretically and empirically. The outcome of the disorder is frequently, but not always, a condition of dementia. The

quantitative and qualitative expression of the same is very variable. That the morbid process itself, as a result of its pathologico-anatomical nature, is a destructive one is possible, but not yet proven.—(*Am. Journ. of Insanity.*)

Alcoholism in France.—The following figures are taken from a report by Dr. Magnan on the alcoholist population of the asylums of the Seine, as quoted by the *Progrès Médical*. No. 21, May 23rd, 1896:—

Alcoholism contributed to the population of the asylums in 1894, 775 patients—624 males and 151 females. The forms in the male comprised 282 cases of alcoholic delirium, 332 of chronic alcoholism, and 10 of absinthism. The females included 90 cases of alcoholic delirium, 60 of chronic alcoholism, and 1 of absinthism. Besides these, if we take account of the cases in which excesses in drink caused the entry into the asylum of patients who without this cause would have been able to get on outside, we find further 166 males and 63 females. The two groups, simple alcoholic cases and the insane with alcoholic causation—a total of 1,004 patients—give a percentage of 38·42 of the male and 12·82 of the female admissions. Thus, on the average, one-third of the insanity of the Department of the Seine is due to alcohol.

In 1887 the proportion was smaller—24·84 for the males, and 3·92 for the females; the increase has been progressive year by year, and Dr. Magnan adds—“As a result we see the increase of general paralysis, and what is still more serious, the multiplication of young idiots and epileptics whose antecedents now-a-days almost constantly reveal alcoholism of the father, and sometimes of the mother, or even both parents together. It is, therefore, a social duty, a work of public safety, to endeavour by all means to check this scourge, which is worse than the most murderous epidemics.”

The Influence of Fever on the Mental State of the Insane.—In a paper published in the *Journal of Mental Science* for April, 1896, Dr. J. Keay, of the District Asylum, Inverness, gives an analysis of forty-four cases of illness from scarlet and typhoid fever, occurring at the District Asylum since it was opened thirty years ago, and considers the cases with special reference to the effect of the fever on the course of the mental disease. Six of the cases were

scarlet fever, of which three recovered. Two were cases of chronic mania and melancholia of seven and five years' duration respectively. Of the thirty-eight cases of typhoid fever, there were twenty-three in which recovery from the fever took place, and of these six are reported as having mentally recovered very soon after the recovery from typhoid.

As might be expected, various theories are advanced by different authors to account for cases such as these. Thus Bucknill and Tuke suggest that it is due to the "feverish excitement" of the brain induced by the disease. Dr. C. M. Campbell, in Tuke's "Dictionary of Psychological Medicine," ascribes the favourable influence of fever to the improved circumstances and surroundings and extra attention given the patient, while M'Intosh thinks it is a mere coincidence. Dr. Clouston comes, we believe, nearer to modern thought on the subject, when he ascribes the good derived from the fever to its so-called alterative effect on the system in general, and thus stimulating nutrition. Dr. Keay, judging from his remarks on the results of thyroid therapy, is inclined to attribute the good effect of typhoid fever entirely to the increase in temperature. Although it was at first suggested that the beneficial effects of thyroid feeding in insanity was due to the febrile disturbance which it caused, the most recent views discredit this idea, but nevertheless the fact remains that apparently chronic cases of insanity do quickly recover after an attack of typhoid or scarlet fever. Now it would seem far more plausible to suppose that the good effect of the fever on the course of the mental disease was due to the stimulation of the nutritive processes that occur at the end of the fever than to ascribe any portion of it to the fever itself. Moreover, improvement occurs generally after the fever and not during it, showing quite conclusively that the fever is not an essential factor in its production. Furthermore, improvement following pneumonia and some other diseased states accompanied by high temperature has but rarely, if at all, been observed. We are, therefore, forced to the conclusion that the simple rise of temperature will not account for the improvement in the mental state of the insane observed to follow typhoid and scarlet fevers and the systematic administration of large quantities of thyroid extract.—(*Am. Med. and Surg. Bulletin.*)

Insanity and Old Age.—Dr. Anton Ritti introduced a discussion on mental derangements in old people at the Congress of Alienists and Neurologists, held at Bordeaux. Limiting the subject to psychoses occurring in old people of previous good mental health, and, therefore, excluding senile dementia and mental troubles consecutive to brain lesions, the following general conclusions are arrived at by the authors:—

1. By psychoses of old age are meant the mental affections which supervene late in life in individuals who have not hitherto shown signs of any psychical trouble.

2. The most frequently observed psychoses in old age are in order of frequency—melancholia in different forms, especially simple melancholia and anxious melancholia (excited); mental confusion, mania, moral insanity, systematised delusional insanity.

3. The excited melancholia of old age is one of the most clearly defined, by the constant agitation, anguish, violent impulsiveness, refusal of food, under the delusion that human flesh and other food is administered; by the tendency to obscenity, insomnia, &c.

This form is very curable.

4. The insanity of persecution, which begins in old age, also presents special characteristics. It follows the same course as in young persons, but is more rapid; it presents hallucinations of vision, which are not accidental but are a part of the disease, and enter to some extent into the constitution of the delusions.

5. Systematised delusional insanity, whether it be insanity of persecution or megalomania, may manifest itself in old age with the same coherence, the same activity, the same bearing as in subjects less advanced in life. Hence, one may conclude that the psychoses appearing in the last phases of life are not necessarily tinged with that intellectual falling off which is described under the name of senile dementia.

6. One of the insane manifestations which is present in nearly all psychoses of old age is eroticism. Whether we deal with mania, or melancholia, or delusional insanity, one finds in all the patients some over-activity in the domain of the genital sense, as evidenced by words, gestures, and acts often the most obscene.

7. The study of somatic or bodily symptoms is of the greatest importance in the psychoses of old age. Troubles of circulation, cardiac and renal lesions are very frequent. It is probable that the frequency in old people of mental confusion (stupor) is due to some auto-intoxication (uræmia?).

8. The causes of these psychoses must be searched for in heredity, in the organic modifications which accompany old age, in the diminished resistance which the senile brain opposes to moral and other shocks.

9. The prognosis of these affections is not absolutely unfavourable. The cure of certain psychoses in old age is almost as frequent as that of the insanities of middle age.

10. The study of psychoses in old age is in a measure the complement of that of the psychoses of old age. The insane, and especially cases of circular insanity and insanity of persecution, reach the extreme limits of old age without falling into dementia. As a rule, it is only as the result of some cerebral stroke that the first symptoms of loss of the intellectual faculties appear; but we are then in the presence of organic dements, not of "insane" dements (*i.e.*, secondary dementia).

11. As regards the legal relations of the psychoses of old age, they come under the same rules which govern the law of the insane. Cases relating to the question of testamentary capacity probably arise more frequently than those concerning legal responsibility (crime, &c.).—(*Journ. of Ment. Sci.*)

II. NEURO-ANATOMY AND PHYSIOLOGY.

The Connections of the Cerebellum and the Cerebrum.—Mirto (*Revista di Patologia Nervosa e Mentale*, Feb., 1896), in an article discussing the finer anatomy of the peduncular and subthalamie regions in man, deduces the following as to the cerebello-cerebral tracts:—

Between the cerebrum (cortex and sub-cortical nuclei) and the cerebellum there are both crossed and direct connections. The former are as follows:—

1. Fibres of the superior cerebellar peduncle that cross the red nucleus sending out collaterals, to the field of Forel, and pass into the lenticular nucleus and thalamus of the opposite side.

2. Fibres of the superior cerebellar peduncle that termi-

nate in the red nucleus of the opposite side connecting with the cells of this nucleus.

3. Fibres of the superior cerebellar peduncle that originate in the red nucleus of the opposite side.

4. Collaterals of the pyramidal fibres that connect with the cells of the red nucleus, that give origin to the fibres of the contra-lateral superior cerebellar peduncle.

The direct connections are represented by the following tracts:—

1. Fibres of the superior cerebellar peduncle that traverse the red nucleus to the optic thalamus without decussation.

2. Fibres of the superior cerebellar peduncle that terminate in the red nucleus of the same side.

3. Fibres of the superior cerebellar peduncle that originate in the red nucleus of the some side.

4. Collaterals of the pyramidal fibres that connect with those cells of the red nucleus that give origin to the fibres of the homo-lateral superior cerebellar peduncle.—(*Am. Journ. of Insanity.*)

Observations of Direct Connections between Cortical Nerve Cells.—Vassale and Donaggio (*Rivista Sperimentale di Freniatria*, 1895), in a preliminary note upon certain results obtained with a new modification of Golgi's silver method, record some observations which, if their accuracy should be fully confirmed, must have great importance in relation to cerebral physiology. The modification consists merely in the addition to the bichromate solution of 5 per cent. of acetic aldehyde. In this mixture thin pieces of brain are hardened for from 15 to 20 days, and then further treated as in the ordinary silver method. The authors state that this mode of procedure brings out certain details of structure not otherwise revealed. The spines of the protoplasmic processes of the nerve cells are longer and more delicate than they commonly appear, and here and there they assume the aspect of true fibrils. In the brain of the fowl, which they have found to give the best results with the new method, the axis cylinders can be followed for a long distance. They repeatedly ramify, and some of the finest branches can be traced into the spines of the protoplasmic prolongations of nerve cells more or less distant. Regarding this observation the authors say— "This fact, which, if it should

be confirmed, would naturally have the greatest importance for the theory of the continuity as opposed to the modern doctrine of the contiguity of the nervous elements, we for the present limit ourselves to merely stating with due reserve, intending to continue the line of research."—(*Journ. Ment. Sci.*)

The Descending Endo-hemispheric Degenerations following Extirpation of the Frontal Lobes.—Prof. Bianchi, of Naples, has followed up his important experimental researches upon the functions of the frontal lobes with a study of the paths taken by the descending degeneration that occurs after the removal of this portion of the brain. He gives an account (*Annali di Neurologia*) of his observations upon the brain of a monkey eleven months after extirpation of both frontal lobes. He found degeneration of the cingulum and of the other longitudinal fibres of the limbic convolution of the superior longitudinal fasciculus, the occipito-frontal fasciculus, and the whole of the external capsule. He distinguishes between a superior longitudinal and an occipito-frontal fasciculus. The former goes to the external capsule, the latter follows the curve of the caudate nucleus, turns downwards at the level of the optic thalamus, and then spreads itself out in the angular gyrus, the occipito-temporal lobe, and the tapetum. He opposes the theory of Sachs that an occipito-frontal fasciculus only exists when the corpus callosum is wanting; and he also disagrees with the opinion of Wernicke that its fibres join the internal capsule. He maintains that there is no basis for Schnopfhagen's statement that the external capsule consists of fibres of the corpus callosum derived from the frontal lobe of the opposite side. He concludes that the frontal lobes contain a vast corona radiata of association fibres, but only a very small number of projection fibres; and regards their functions as consisting specially in that physiological fusion and synthesis of all the sensory and motor products by which is constituted a psychic personality, and in the exercise of a control over all the other centres.—(*Journ. Ment. Sci.*)

Experimental Researches upon the Cerebral Localisation of the Tactile Olfactory and Gustatory Senses.—Dr. G. Andriani, in a communication made to the Italian Congress of Psychiatry, October, 1896, arrived at the following con-

clusions on this subject as the result of his experiments upon dogs :—

1. In the posterior cortical zone of the fissure of Sylvius, and in the subjacent white matter, as also in the grey and white matter of the hippocampal gyrus, there are without doubt centres and paths connected with the tactile sense met with, especially as one passes from superior to inferior planes.

2. The disturbances in this sense which are observed in ablation, more or less extensive and profound, of these regions are noticeable principally on the side opposite the lesion, and consist in a retardation—in marked cases an abolition—of tactile perception, with errors of localisation. These disorders diminish gradually, and disappear after forty or fifty days.

3. The tactile disorders appear proportionate—especially in respect of duration—to the extent of the ablation practised on the posterior Sylvian and hippocampal regions.

4. In excisions, mono- or bilateral, of the posterior Sylvian zone, and of a portion of the hippocampal gyrus, if the anterior one-fourth or one-third of this gyrus be spared, there are observable, besides the tactile disorders described, slight transient disorders of smell, but no disorder of taste. If, on the contrary, the excision approaches or touches the anterior portion of the hippocampal gyrus, disturbances of smell become manifest, preponderating on the same side, but not of long duration.

5. If the anterior portion of the hippocampal gyrus of one side is destroyed to the extent of an olive stone, there results, in addition to other phenomena, great obtuseness, with perversion of taste and obtuseness of smell.

6. After unilateral excision of the limbic gyrus, and of the marginal gyrus, immediately behind the sigmoid gyrus as far as the splenium of the corpus callosum, there is bilateral abolition of taste, with tendency to slow improvement until the fortieth day, and light transitory disorders of smell and vision.

From experiments on apes the author concludes :—

7. That removal of the cortex of the inferior half of the second temporal gyrus, and of the anterior half of the hippocampal gyrus on one side, produces notable hypo-æsthesia in

the other side, and diminution of tactile sensibility on the same side as the lesion; further bilateral diminution of olfactory sensitiveness most marked on the same side, and also slight amblyopia of the external segment of the retina on the side of the lesion. Hearing, taste and the sense of pain remain intact. If the same portions of the second temporal and the hippocampal gyrus are excised on the other side, there result conspicuous tactile anæsthesia on the side opposite to the (second) lesion, marked amblyopia of the internal segment of the opposite retina, blunting of the auditory sense on the opposite side. Taste and sense of pain remain intact.

In every case the tactile disturbances diminish progressively during the second and third weeks.—(*Journ. Ment. Sci.*)

The Effects of Electrical Excitation on the Cerebral Circulation in Man.—Capriati has published in the *Annali di Neurologia* the results of an experimental study of the effects of electricity on the circulation of the human brain. Two patients who had undergone trephining were made the subject of study, the modifications of the cerebral pulse under the action of the galvanic and Faradaic currents, as applied to the head, being observed; also as applied to the cervical sympathetic; and the same under general Faradisation. From these observations it appears:—1. That in applications of the galvanic current, whether directly to the head or indirectly, the resulting modifications concern especially the state of the vascular walls. 2. Under the Faradaic current, on the contrary, it is the amplitude of the pulse which is particularly affected. 3. With the galvanic current there is vaso-dilatation when the application is made to the head transversely; vaso-constriction when longitudinally, or when the sympathetic is stimulated, provided that one pole—whichever it may be—is placed on the nape of the neck. The result is then probably due to a direct action of the galvanic current on the vaso-motor centres of the bulb. 4. In galvanisation of the sympathetic, in addition to vaso-constriction there are also profound modifications in the volume of the brain. Since such modifications do not occur in any other form of the other modes of application, and are constant in excitation of the sympathetic region,

they must be referred to a special action of electricity on this region. 5. In all applications of the Faradaic current the ultimate result is always augmentation of the blood flow to the brain (hyperæmia).—(*Jour. Ment. Sci.*)

Function of the Pituitary Body.—Vassale and Sacchi (*Rivista Sperimentale di Freniatria*) record the results of some further experiments they have made in the course of their investigations into the functions of the pituitary body. In their previous communication on the subject, published in 1892, they stated that they found that complete destruction of this organ in dogs and cats had fatal consequences within fourteen days. The symptoms produced included anorexia, depression, rigid gait, fibrillar contractions, muscular spasms, and lowering of temperature. They also found that partial destruction produced a series of similar symptoms, and they concluded that these were consequent upon a true functional insufficiency of the gland. As the result of their second series of experiments they have now supplemented these observations in certain important particulars. They have ascertained that the symptoms produced by destruction of the pituitary, including the depression of temperature, can be temporarily relieved by an injection of an extract of the organ from the ox. In a case in which the pituitary was only partially destroyed, the characteristic phenomena were observed for about three weeks, after which the animal gradually recovered and remained healthy for eleven months. It was then killed, and the fact of the incomplete destruction of the gland was confirmed. The authors maintain that the results of their experiments show that the pituitary body has certain close functional analogies to the thyroid gland. Thus its partial destruction may be tolerated, and the lowered temperature which follows its complete destruction is restored to normal by injection of an extract of the organ. They are of opinion that the pituitary body, like the thyroid, elaborates a special product of internal secretion which is indispensable to the organism.

Weigert's New Neuroglia Stain.—For the past seven years Prof. Weigert has been endeavouring to bring to perfection a reliable staining method which will reveal the various elements of the neuroglia. He has now succeeded in so doing, though he admits that the method may, and doubtless

will, be somewhat improved. On the 3rd November last the details of his method were given to the scientific world by the author for the first time in an address delivered at a banquet given on the occasion of the fiftieth anniversary of the Medical Society of Frankfort-on-the-Maine. The following are the different steps as laid down by the author:—

The method is only applicable to human nervous tissues. All experiments upon the tissues of lower animals have been a failure. The tissues must be absolutely fresh—that is to say, the subject from which they are taken must not have been dead more than twenty-four hours; the fresher the tissues the better are the results likely to be. The pieces to be used must not be more than one-quarter of an inch thick, and great care must be used in order to prevent mutilation of the tissues during their removal. Pieces thus removed are immediately placed in a 10 per cent. watery solution of formol; after twenty-four hours the solution is renewed. In from five to eight days the pieces will be found sufficiently hardened, and ready for the next step, but they may remain in this solution for an indefinite period without injury. During the first few days of hardening a glass-covered vessel should be employed, the bottom of which is covered with filter paper; too great care cannot be used in handling the pieces at this time, as they are very soft and easily mutilated. This is the so-called “fixing” or “hardening stage.” The hardened pieces are now placed in the following solution:—

5 per cent. of acetate of copper.

5 per cent. of acetic acid, and

2½ per cent of chrome alum in water.

In preparing this solution the chrome alum should be boiled in the required amount of water, and while the water is still boiling, add first the required amount of acetic acid and then the acetate of copper. Stir thoroughly with a glass rod until all the sediment has been removed. In this solution the tissue should remain for a period of from four to five days if the incubator is used, and for a period of at least eight days in the ordinary temperature of a living room. Even better results may be obtained if to this solution 10 per cent. of the formol solution is added, and in that case after twenty-four hours the tissue should be placed in the

ordinary copper solution, where it remains for the rest of the time. This is the so-called "mordication process." The process of fixing and mordication may be combined if the tissue is only intended for the neuroglia stain. The pieces are now removed from the copper solution, thoroughly washed in water, then dehydrated with alcohol, and next thoroughly infiltrated with celloidin, which is done in the usual way. The pieces are now mounted on cork, and are ready for the microtome. The section cutting is done in the usual way, and if the best results are to be obtained the sections must be exceedingly thin. The cut sections are stained with the following solutions and in the following manner:—Make a hot saturated solution of methyl violet in 80 per cent. alcohol. To 100 c.c. of this solution add 5 c.c. of a 5 per cent. watery solution of oxalic acid. The section is now carefully transferred to the slide; a drop or two of the staining solution is placed on the section. The superfluous fluid is removed by gently placing several thicknesses of filter paper directly over the section, and lightly moving the finger tips back and forward over the filter paper until the section is dry. The next stain is the so-called "iodine stain;" this is a saturated solution of iodine in a 5 per cent. solution of iodide of potassium; of this solution several drops are placed on the section, and the superfluous fluid removed as before. The section is cleared by employing a solution of aniline oil and xylol in equal parts; after this is done the oil remaining in the section is removed, and further cleared in pure xylol. The section is now ready for the balsam and cover glass. The tissue has a strong affinity for the staining agents, and the various steps should be done rapidly, care being taken not to leave the section dry for any length of time. All of the staining should be done on the slide, in order to prevent unnecessary mutilation of tissue. After the sections are mounted they should be exposed to good sunlight for a week. This constitutes the simple neuroglia stain, where nothing but neuroglia is stained, all other tissues remaining unstained. If it is desired to stain the nervous tissue also the following addition is made:—The sections taken from the microtome are placed for about ten minutes in a one-third per cent. solution of permanganate of potassium, then thoroughly washed in water; after this the

sections are placed in a solution of chromogen, which is made as follows: dissolve 5 per cent. of formic acid in water; filter carefully; before using add to 90 c.c. of this solution 10 c.c. of a 10 per cent. solution of sodium sulphite (such as is used in ordinary photographic work).

In this solution the sections remain for a period of from two to four hours, when they are thoroughly washed in water; the sections are now stained according to the method already indicated. This step is known as "reduction."

In the single neuroglia stain the neuroglia fibres and cells are stained blue; if the reduction stain is employed, all neuroglia tissue remains blue, while the ganglia cells with their axis cylinder processes are stained yellow. The reduction process may be improved by placing the sections which have been removed from the reduction fluid into a simple saturated watery solution of chromogen, where they remain for twenty-four hours. At the end of this time the sections are again washed in water, and then stained by the method described above.

By the discovery of this stain Weigert has demonstrated that there is no such a cell as the Deiter cell, and that what has heretofore been regarded as Deiter cell processes are not processes at all, but are rather neuroglia fibres lying round about a neuroglia cell, and have no direct connection with the cell itself. It is thus seen that this new method is destined to become a great aid in studying the histology of the nervous system. What benefit it will be to morbid anatomy remains to be seen.

It is to be noted that the rapid hardening of the tissues by this method does not render them brittle, and further, that after the tissues have been subjected to the "fixing" process they are also well adapted for other staining methods, such as those of Marchi, Golgi, Van Gieson, and Nissl, and by simple hæmatoxylin and carmine. This is of great advantage, inasmuch as it is always desirable to employ a number of different stains for the same tissue.—(*Am. Journ. of Insanity.*)

The Preservation of Serial Sections.—Dr. Worcester, of the Danvers Lunatic Hospital describes a method he has adopted for the preservation of a continuous series of sections, which are of much importance in the study of the normal or

morbid histology of the medulla oblongata, pons, and basal ganglia. As it is unnecessary to prepare and mount every consecutive section those not mounted can be kept for examination at any future time in the following manner:— Pieces of tissue paper a little larger than the sections to be preserved are numbered with lead pencil consecutively. The sections when cut are taken from the knife on the papers and laid one above another in alcohol. When the requisite number have been thus laid aside the papers are rolled together, furnished with a paper label, tied up and kept in alcohol. When any are wanted for examination the bundle can be unrolled, and the specimen desired taken from it. If the papers are separated under alcohol there is little danger of tearing the sections. The sections to be mounted can be carried through the staining and cleansing fluids on the numbered papers, and their position in the series thus determined at any stage.— *Am. Journ. of Insanity.*

III. NEURO-PATHOLOGY AND PATHOLOGICAL ANATOMY.

The Pathology of Syringomyelia.—Dr. Allen Starr, in a review of the pathology of the malady, published in the *Journal of Nervous and Mental Disease*, records as follows the varying opinions of observers in their chronological order:—

1. The view of Virchow, who ascribed the cavities, invariably found in the spinal cord in the terminal stages of the disease, to a distension of the central canal. This view was modified by Leyden, who considered the condition a congenital hydromyelus. These views are now modified by their authors.

2. Simon first distinguished sharply between hydromyelus and syringomyelia, and pointed out the existence in the latter of gliomatous tissue and destruction.

3. Schultze then urged the view that prior to the formation of any cavity there was always a central gliomatosis, a proliferation of glia cells, which, though usually beginning near the central canal, may begin anywhere in the cord.

4. Hallopeau later proposed the theory that the condition was really a chronic inflammation beginning in the epithelium of the central canal, or in the periependymal cells, and considered the process to be of the nature of sclerosis.

5. Joffroy, like Schultze, denied any necessary relation between the pathological process and the epithelium of the central canal, but considered that an inflammatory change might begin in any part, leading finally to disintegration—a true “myelite cavitaire.”

6. Langhaus then brought forward an hypothesis, which Kronthal subsequently supported, and which Müller and Medin have recently urged, that an obstruction to the venous or lymphatic return flow from the cord may lead to accumulation of fluid in the central canal, distension of the cavity of the canal, pressure on, and thus disintegration of, adjacent grey matter, with glia formation.

7. Lastly, Van Gieson, from a study of a number of cases, has shown that a long cavity may be left after the absorption of the clot formed by a perforating hæmorrhage in the cord; that such a cavity is surrounded by a zone of neuroglia, thus simulating true syringomyelia. Dana, while admitting the possibility of perforating hæmorrhage confined to the grey matter of the cord, considers that a true necrotic process is in some cases the primary cause of such cavities as Van Gieson describes.

The conclusion to be drawn from this review of various theories is that cavities develop in the spinal cord from many causes, and that the lesion of syringomyelia is not of uniform causation.

The Pathology of Friedreich's Ataxia.—Dr. Dana, in the issue of the *Post Graduate* for July, 1896, records a case of this disease in the person of a young man who died at nineteen years of age, having been affected with the malady since his eleventh year; he was one of eight children, of whom four developed Friedreich's ataxia. Sections of the spinal cord were stained with carminate of soda, Weigert's hæmatoxylin, methylene, and ordinary logwood. The sections show that the spinal cord is much reduced in size, and flattened antero-posteriorly. The pia mater is much thickened. A sclerosis of the posterior and lateral columns is seen extending through the whole length of the cord, but more marked in the lower portions. This sclerosis involves nearly the whole of the posterior columns. In the lateral columns the parts affected include the region of the crossed pyramidal tracts, the direct cerebellar tracts, and, to a more or less

extent, the area occupied by the ascending lateral column. There is, aside from this systematic degeneration, a margin of sclerosis enveloping nearly the whole circumference of the cord. In addition to this combined sclerosis, there is throughout the whole length of the cord a most peculiar change, which consists in the presence of holes, varying in size from half a millimetre to two millimetres in diameter, and which are apparently dilated perivascular spaces. They are found in both the grey and white matter of the cord, but more extensively in the white matter. They are not artificial, for under high powers it can be seen that each opening is surrounded by a layer of connective tissue. Although they appear to be spaces from which blood vessels have dropped out, yet in no instance can the remains of such blood vessels be detected, and therefore their perivascular nature is not proven. In three other cases of Friedreich's disease examined by Dr. Dana no such vacuolisation was observed. The grey matter shows a moderate degree of degeneration of the nerve cells, but no special disturbance. The degenerative changes in the blood vessels were not very greatly marked. The question as to whether the sclerosis in Friedreich's ataxia is really a gliosis could not be answered by any tests to which these sections were submitted. There is probably a large amount of both neuroglia and connective tissue proliferation in the diseased areas. The brain and nerves in this case were not available for examination. The presence of complicating lesions in Friedreich's ataxia is not exceptional, Dr. Dana considers. Dr. Griffith, of Philadelphia, for instance, showed him sections in which there was an old polio-myelitis as well as the combined sclerosis. A study of these accidental lesions may prove of value in elucidating the pathology of this disease. So far as now known, it is to be looked upon as a teratological condition, a defect in development. Why this occurs in certain families, however, we do not know. It is far from being always hereditary.

Degenerative Changes in the Brains of the Non-Insane.—

Dr. Robert Hutchison ("Edinburgh Hospital Reports," IV., 1896) discusses the question as to what are the normal findings in the cortical cells of the human brain. By "normal" he means the average, not the ideal, conditions. In order to get an idea of the appearances of the average

cortical cell in the sane, he examined fifty cases, using Bevan-Lewis' fresh method, taking in each case a part of the convolutions of the left motor area, usually the ascending frontal. The cases were taken as they came without any special reference, except as to the latest illness, its general character and symptoms. The most striking fact derived from the examination was the frequency of abnormal conditions; their absence was the exception. The most frequent of the morbid conditions found was pigmentary degeneration, which was clearly excessive in nearly one-half of the cases examined, allowing fully for the normal increase with age. Every degree of this condition was met with from merely a slight increase to complete destruction and replacement of the cell by pigment granules. It is difficult, he says, when discussing these appearances to accept the statement that they are "invariably a witness to bygone functional hyperæmia." If it is difficult to define exactly excess of pigment, it is still more difficult, according to Dr. Hutchison, to mark the limits of normal and abnormal granularity of the cell. Vacuolation of the brain cells, he thinks, is sometimes confounded with the faint staining of the nucleoli by the Bevan-Lewis method, the appearances being almost quite similar, the faintly stained nucleoli closely resembling vacuoles in the cells. He has, however, not infrequently seen true vacuolation, but is unable to associate it with any definite disease.

Changes in the neuroglia seem less frequent in the sane than in the insane, and in no case did he find anything similar to the condition observed in paresis.

In order to control these investigations Dr. Hutchison made similar examinations of the brains of fifty insane persons, prepared in the same way, and taken in sequence as they died without selection. He is bound to say, he states, that in these he could find no greater intensity or frequency of pathological changes than in the other series, always excepting the cases of paresis. It would be of interest to know the proportion—if there were any such—of old demented cases, and organic dementia, but this is not stated.

In discussing these results Dr. Hutchison takes up the possible causes of the changes observed. The method of examination may be somewhat in fault, but this would be

inadequate to explain all the facts, especially the pigmentation he claims. That they are all *post mortem* is also improbable, and he has found no difference between sections taken early or late (three or four days) when the brain was properly cared for and preserved. There is, of course, a possibility that the *post mortem* changes occur at once after death and then cease, but this could not be very well tested in man. The possibility also of their being due to the fatal illness is to be remembered, but is also undemonstrable. The most natural explanation, according to the author, is to regard the cell changes as secondary to disease elsewhere, and this he holds is quite in accordance with the teachings of general pathology. If indeed there is any organ in which such secondary changes should be looked for from systemic circulatory disturbances, &c., it is the brain with its richness of blood supply. The only disorder, however, with which he is able to especially correlate such changes in the brain cells is chronic renal disease, and he calls attention to the fact that Bristowe has pointed out the analogy of the changes in the cerebral vessels in chronic Bright's disease with those that occur in paresis. It is also worthy of note in this connection, he says, that chronic nephritis is unusually common amongst the insane. It is easy to conceive that even a slight œdema of the brain might so affect the nutrition of the organ as to bring on a cell degeneration.

Dr. Hutchison admits that his criticisms apply to only one method, and that possibly not the best. It is, therefore, only suggestive of greater carefulness in estimating the value of microscopic findings, and greater attention to the comparison of the changes found in the insane with those found in the non-insane. It is not of course in any way conclusive against the later and more accurate methods of study of the pathological histology of the cerebral cortex.

The Bacteriology of General Paresis.—What appears to be an important research is reported on by Dr. Piccinino in the *Annali di Neurologia* (XIV., Fasc., I., II). When, in 1892, Prof. Bianchi undertook a series of bacteriological investigations on the febrile psychoses, the blood in various stages of paresis was tested by culture and inoculation experiments, without discovery of more than the ordinary bacteria of inflammation. These negative results led Bianchi to under-

take a series of examinations of the cortex in five paretics—three men and two women—some of them with certain or suspected syphilitic antecedents, and one or two in which these seemed to be excluded. The patients were all clinically observed during life, and the diagnosis was clear.

The portions of the cortex examined were taken, with antiseptic precautions, through openings made with a trephine before the general autopsy or the removal of the calvarium, thus insuring as far as possible against foreign contamination. Some of the pieces removed were used for culture experiments, but the results were the same as in the cultures with blood aspirated antiseptically from living patients in the former investigation.

Other specimens were hardened in absolute alcohol and then embedded in paraffin, and sections prepared according to various staining methods usually employed (aniline, gentian violet, Loeffler's methylene blue, fuschin in aqueous solution, Gabbett's freezing method, those in Ehrlich and Koch-Ehrlich), but without result. Only the Gram and Weigert methods showed some sparse cocci, isolated or in pairs or groups, which were probably the same as those met with in the culture experiments.

Piccinino next tried with an extensive series of sections a modification of Lustgarten's stain for his supposed syphilis bacillus, which on account of the importance of the findings is here re-stated in detail.

The very thin sections were floated in distilled water on to cover glasses, dried with bibulous paper, cleared of paraffin with xylol, and then immersed in a rather concentrated solution of gentian violet in aniline water, where they remained for twenty-four hours in a temperature of 37° C., and then for two hours in one of 40° C. Next the glasses were subjected to a prolonged washing in absolute alcohol, and passed for half a minute into a solution of permanganate of potassium, 1½ per cent., and afterwards plunged, into a saturated aqueous solution of sulphurous acid. Remaining in this a few seconds so as not to entirely lose their coloration, and after a prolonged bath in distilled water, they are returned for a few seconds to the permanganate solution. Next the glasses are repeatedly plunged into absolute alcohol dried by a lamp, and the preparation is finished by mounting with neutral balsam and xylol.

When by this method the colorisation could be arrested at the point of leaving a slightly violaceous tint, Piccinino was able to see clearly, and in large numbers, a rather large bacillus twice as long as broad, sometimes isolated, sometimes in twos or threes, often slightly or strongly curved. They appeared in all the tissues, but more especially in the pericellular spaces; their coloration was generally violaceous, never an intense violet, but sufficiently marked in the denser parts. In some visual fields these organisms resembled grouped granules, in others, where more decolourised, they seemed like shining points, or a very refrangent bacillus. Control experiments were made with this method on the cortex of patients dying of other affections, always with a negative result, and no other method revealed the same organisms in the paretics.

These results, if confirmed by other observers, have an important bearing on the syphilitic theory of paresis, and also are suggestive as to the significance of Lustgarten's bacillus, the connection of which with specific disease has not heretofore been considered as fully proven.—(*Am. Journ. of Insanity.*)

Aphasia—M. Miraille, of Paris, has recently published a memoir on sensory as compared with other forms of aphasia. Sixty-two cases, many of them heretofore unpublished, form its text. The principal aim of the author is to prove, as previously in publications made in collaboration with M. Déjerine, that agraphia, which often complicates aphasia, is not localised in a special centre as others claim, and that neither clinical observation nor pathological anatomy demonstrates a centre for graphic images.

The paper gives the main points in regard to aphasia, and the distinction of its various forms. Together with Broca's aphasia there exists a sensory form—the sensorial aphasia of Wernicke, of which the verbal blindness and deafness of Kussmaul are only varieties. The centres of language images (visual, auditory and motor) are grouped in the convolutions enclosed by the fissure of Sylvius forming the language zone. Every lesion of this region affects internal speech (Déjerine), and in consequence, manifest or latent lesions of all the forms of language (speech, hearing, reading, writing) with troubles predominating in the functions of

images directly destroyed. Agraphia is always present. These are the true aphasias. The pure aphasias (sub-cortical motor aphasia, pure verbal blindness and deafness of Déjerine) are located outside of the language zone, and leave the internal language intact. They never cause agraphia, and affect only one phase of speech constituting a group apart from the true aphasia. Nothing authorises the admission of a motor centre for graphic images, and a pure agraphia remains yet to be demonstrated.—(*Am. Jour. of Insanity.*)

IV. NEURO-THERAPEUTICS.

Lumbar Puncture.—Trephining for the relief of brain pressure in general paralysis was first suggested by Dr. T. Claye Shaw, in 1889, and the first operation was performed in July of that year by Mr. Harrison Cripps. The procedure found an earnest advocate in Dr. J. Batty Tuke, who latterly suggested laminectomy with permanent drainage in its stead. As a substitute for these serious operations, both in general paralysis and in other forms of brain and cord disease when intracranial pressure is believed to exist, paracentesis of the spinal dura mater, or lumbar puncture as it is called, has been suggested by Quincke and von Ziemssen. Lichtheim has since called attention to the diagnostic importance of the operation, and demonstrated the presence of bacilli in the fluid in cases of tubercular and purulent inflammatory conditions of the meninges. Fürbinger reports results in over a hundred experimental punctures, in eighty-six patients who were suffering from a variety of brain disorders, and brought the therapeutic and diagnostic bearings of the subject prominently before the profession. In England, Morton and Paget have made an exhaustive report on the subject. In America, Jacoby was the first who practised the method, his recent report covering thirty-five cases, of which seventeen were of tubercular meningitis. He also reported two cases of subdural spinal hæmorrhage, punctured with marked improvement. Dr. J. Turner first performed the operation in general paralysis, and claims that it fulfils at least temporarily all the conditions that result from trephining or laminectomy. Dr. W. L. Babcock, of the St. Lawrence State Hospital for the Insane, has, in May,

1896, performed the operation in America in cases of paresis; the puncture was made on twenty-two occasions on paretics in all stages, and in other cases of brain or spinal trouble, without the production of unfavourable conditions, and with the temporary amelioration of many prominent mental and motor symptoms. The operation itself is not difficult, and with antiseptic precautions is unattended with danger in uncomplicated cases. No fatal results following puncture of the subdural sac have been reported, except in cases of cerebellar tumour. Fürbinger had four deaths out of eighty-two cases, and a *post mortem* demonstrated that each of the four was suffering from some variety of cerebellar neoplasm. Dr. Babcock reports on nineteen cases in which puncture was done. Twelve were general paralytics, two simple melancholiacs with pressure symptoms (intense headache, stupor, photophobia), and the remaining five included one case of each of the following maladies—locomotor ataxia, stuporous melancholia, organic dementia, status epilepticus, and acute delirium. A careful study of the results obtained brings out the following conclusions:—

1. Lumbar puncture affords temporary relief from pressure symptoms in over fifty per cent. of cases of paresis submitted to the operation.

2. The most beneficial effects are manifest over motor inco-ordination—i.e., ataxia, tremors, &c.

3. Analysis of the fluid obtained in paresis shows that it contains an inflammatory product (albumen) throughout all stages.

4. It may be of benefit in locomotor ataxia, status epilepticus, or organic cerebral disease, and deserves further trial in these cases.

5. It presents excellent diagnostic possibilities, particularly in meningeal inflammations.

6. It does not sufficiently benefit melancholia with pressure symptoms to warrant its use in this disease.

7. Re-accumulation usually occurs within from three to ten weeks when a second or even a third puncture is indicated if patient's condition admits (*State Hospital Bulletin*, July, 1896).

Flechsigt's Bromo-Opiate Treatment of Epilepsy.—Though the results of this method of treatment, which have been

recorded, are still few in number, yet its adoption in severe or obstinate cases of epilepsy, especially when associated with profound mental disturbance, appears worthy of consideration.

In the *Zeitschrift f. Psychatrie*, Bd. LII., two communications have appeared, each of which gives most favourable results. Linke has administered opium and bromides in succession to seven epileptics—six males and one female—in all of whom marked psychical aberration existed. In rapidly increasing doses he exhibited opium first for six weeks, suddenly changing the medicament to large doses (7·5 grammes) of bromide, which being continued for another period of six weeks, was then reduced to a daily dose of 5 grammes. This is the method advocated by Flechsig, though other therapeutists have lengthened the periods of administration of each drug. Linke found that during the opium course the epileptic seizures increased greatly in number, and that the body weight in some cases showed a marked diminution. As soon as the bromides were substituted for the opium the fits immediately diminished in frequency, and the body weight in the affected cases increased again. The ultimate result of the treatment was that in one patient the seizures had not recurred from the commencement of the bromide course to the date of his paper; in another, one fit occurred on the third day after beginning the bromides, and then, after an interval of freedom, for nine weeks, two seizures ensued; a third patient had a fit on the first morning of the bromide treatment, after which an interval of sixty-five days without fits elapsed, when the bromide had to be discontinued owing to bromism; five days after its withdrawal the patient had another fit. With reference to the mental condition two patients showed a comparative improvement, they became more cheerful and patient of control; one of these, who had been subject to accessions of intense furor, subsequently remained quite free from them. Two of his seven patients died during treatment, one apparently by reason of the deleterious action of opium on the heart, which was diseased, the other owing to exhaustion due to the epileptic status. In nearly all the cases a moderate degree of constipation was induced when the daily doses of opium reached 60 grms., this was easily

overcome, however, by simple aperients. When the maximal dose of opium was reached serious symptoms supervened, which rendered careful observation of each case needful. As only two and a-half months had elapsed between the commencement of the bromide course and the publication of his paper, Linke discreetly draws attention only to the remarkable effects of this mode of treatment in cases hitherto wholly uninfluenced by therapeutic measures.

In the same journal Rabbas relates his experience of a similar course of treatment, adopted in eleven female and five male epileptics, and his communication has greater value as two years have elapsed since the experiments were made. Fifteen of these cases had previously been treated unsuccessfully with bromides only. Rabbas began with '3 grms. of pulv. opii per day, increasing this gradually to '9 grms., after which he suddenly changed the treatment to a bromide course of 7.5 grms. daily. During the opium treatment the number of fits increased; in one case only did the body weight remain stationary, in every other instance observed there was some diminution. In six nausea and vomiting occurred, but constipation was not a marked symptom. Some mental improvement was noted in every case. With the sudden cessation of opium severe vomiting sometimes ensued, but dangerous symptoms never actually showed themselves. As soon as the bromides were given instead of the opium the fits at once diminished in frequency; in twelve patients they disappeared, and in one case only was there a more serious renewal of the fits. In five cases the fits remained absent from six to ten months, and on recurrence were less frequent than formerly; in three there has been for two years no recurrence whatever. Two of the cases died during treatment, both (females) succumbing to the exhaustion of the epileptic status towards the end of the opium stage. The results among the males were less satisfactory than among the nine surviving females.

This treatment is one that may certainly be attempted in cases of some severity, though great care must necessarily be exercised in their supervision during the high dosage of opium and in the transition period of medication.—(*Journ. Med. Sci.*

Bromide of Strontium in Epilepsy.—Dr. Roche, (*Lancet*,

September 26th, 1896) reports the results of the administration of this drug in a number of cases, and summarises twelve of them as follows:—Of the twelve, eight were males and four females. Their ages ranged from ten to fifty years; in none was any family predisposition admitted, and none could assign any cause, nor was there any evidence of syphilis; eight had the disease from youth. In four of the cases the fits occurred at least once a week; in the other eight at intervals of one to eight weeks. Three of the patients had some warnings of the attacks, feeling depressed beforehand; the others had not observed any. All had been treated with varying results. The treatment adopted, besides meeting any general indications, obtaining the best hygienic surroundings possible, and advising a strictly vegetable diet with milk, was to give twenty grains of the bromide of strontium, with five or ten grains of the bromide of sodium or ammonium, night and morning largely diluted with water. The strontium salt was increased to one drachm twice a day rapidly when the smaller doses were found to be ineffective in controlling the attacks, and where the patient did not complain of it. The majority of the patients took the strontium without any depression, but generally with the production of the acne rash on the face. Liquor arsenicalis controlled the rash and increased the appetite. This course in all the cases, materially lessened the number of the attacks, and in eight of the cases there has been, so far, no return of them, that is, after an interval of 16, 12, 11, 9, 8, $8\frac{1}{2}$, $5\frac{1}{2}$ and 4 months respectively.

Trional in Epilepsy.—Early in 1894 Dr. S. Weir Mitchell began the use of trional in the treatment of epilepsy. Since this time, at his request, his colleagues, Dr. Sinkler and Dr. Lewis, have been employing it in many of the cases of epilepsy coming under their care at the clinics of the Infirmary for Nervous Diseases, Philadelphia. The results obtained from this treatment have been such that it has been thought well to report them. In most instances where trional was used the cases were in some way benefited. Either the number of attacks was diminished, their severity lessened, or the general physical condition of the patient improved. Summaries of thirteen cases are recorded; of these the first ten show a marked decrease in the number of

attacks during the time of taking the trional, and the physical symptoms during this time were singularly improved. In the first five of these cases the number of attacks was less during the time of taking the trional than during the time of taking bromides. In two cases the bromides controlled the attacks better than trional, and did not produce such annoying symptoms. In one case neither drug seemed beneficial.

Dr. Mitchell, with all the facts in mind, believes that trional may often be used as an efficient substitute for bromides. He has, so far, seen no ill results from many weeks of its continuous use. It is at times well to give bromides in the daytime and trional at night.—(*University Medical Magazine*.)

IMMUNITY FROM SNAKE-POISON.

THE *Medical Record* notices a new antidote to snake-poison discovered and prepared by one Dr. Calmette, of the Pasteur Institute. By this therapeutic serum the most venomous serpents will be rendered as harmless as doves. The method is based on the fact that venomous serpents are not susceptible to the bites of their own species, an immunity not enjoyed by non-venomous snakes. Rabbits and guinea-pigs, duly chloroformed, are bitten by cobra or viper, or inoculated with its venom. Their blood-serum is the protective material. Dr. Calmette has three strings to his bow, chloride of gold and chloride of lime—especially the latter in solution—"injected subcutaneously with a trephine [*sic*] all about the wound, and all about the wound, and also under the skin," will save the life of a bitten man.

LE NORD MEDICAL.

THIS is a fortnightly journal recently born at Lille, under the care of Drs. Doumer, Lemoine, and Phocas. The contents of the first two numbers are of the usual character. We observe that a Bacteriological Institute was about to be established at Lille, in which anti-diphtheritic serum will be prepared. It is estimated to cost £4,000, and a subscription list has been opened. Similar institutions have, it appears, been founded in Barcelona, Madrid, and Brussels. The use of the anti-toxine in the French Army has been sanctioned.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

SECTION OF OBSTETRICS.

President—LOMBE ATTHILL, M.D.

Sectional Secretary—F. W. KIDD, M.D.

Friday, February 12, 1897.

The PRESIDENT in the Chair.

Exhibits.

DR. ALFRED SMITH showed a double pyosalpinx, where the tubes were greatly distended by pus, and which presented the unusual and unique condition of having the fimbriated extremities joined together intimately by a firm short adhesion. He removed them from a patient, aged 35, who sought relief for a constant pain "up through her." The only relief from pain was during menstruation. The periods were irregular, the intervals varied from six weeks to two months, the amount scanty. Operation very difficult from the extensive adhesions. On separation of the tubes from the pouch of Douglas their united ends formed a hoop across the fundus of the uterus, which bore a remarkable similarity to the handle of an ordinary bucket. Result, recovery.

DR. KIDD exhibited for Dr. Lane, who was unable to be present, a multilocular ovarian cyst. It had been removed from a girl, aged 18, who became a patient in the City of Dublin Hospital on the 4th inst.

When first seen a short time before operation the tumour reached as high as the ensiform cartilage, and its consistence appeared to be more like that of a fibroma, more especially over

the upper portion. No fluctuation could be felt, and there was absolute dulness not only all over the tumour but also in the flanks, no matter what position the patient was placed in.

The usual incision was made, but it was impossible to tell where the peritoneum or cyst was reached, in consequence of the structures being so intimately glued together, and also because the contents of the cyst immediately beneath the incision were blood-stained. There were adhesions over the whole of the anterior surface of the cyst, and high up and rather posterior a portion of small intestine was closely adherent to the cyst.

Fœtal Urogenital Organs.

DR. P. J. BARRY exhibited specimens of "fœtal urogenital organs" removed from a full-time male child, which survived its birth thirty minutes, after a normal but tedious labour. The following abnormalities were also noted:—Six fingers on each hand, thumbs being duplicate; six toes on each foot, big toes duplicate and others "webbed;" talipes equino-varus; cleft-palate; tongue rudimentary and lower jaw badly developed; kidneys enlarged; ureters greatly distended, and nearly as large as small intestine; bladder distended, and greatly hypertrophied; penis small; glans penis small; no meatus; urethra impervious; the lungs, heart, stomach, large and small intestines normal and quite healthy.

Specimens are interesting as showing that in the normal condition of things urine is voided in the latter months of fœtal life. Also that the quantity cannot be very great, as none could be voided in this case save by osmosis, meatus and urethra being impervious; and the quantity in the bladder and ureters does not exceed twelve ounces. Dr. Barry added that the child was dead when he saw it. The bladder was enormously distended. The quantity of liquor amnii was the ordinary amount.

DR. ERNEST TWEEDY said the remarkable features of this case seemed to be that there should be no diminution of the liquor amnii, and that the child could have lived for nine months without passing urine.

DR. JELLET showed for Dr. Purefoy the following specimens:—(1.) Ovarian cyst with fibroma of ovary incorporated in it. It had been removed from a patient aged 35, who had been sent up from the country with a diagnosis of pregnancy. When the patient was examined under anæsthetics, the uterus was found to be empty, the abdomen was occupied by a cystic tumour, and a hard mass lay in Douglas' pouch, closely resembling a fœtal head.

A diagnosis was made of extra-uterine pregnancy or dermoid of ovary. On opening the abdomen the tumour was easily removed, and the patient made an uninterrupted recovery.

(2.) Hæmatosalpinx removed from a patient aged 25. She had not menstruated for seven weeks prior to the operation. The right tube was lying in Douglas' pouch, and was very much distended with blood—presumably a tubal mole, It ruptured during removal. The patient made an uninterrupted recovery.

(3.) Pyosalpinx removed from a patient aged 20, married a year and seven months; last pregnancy was an abortion a year previously. The right tube was greatly distended, and had become twisted three times on itself. It was removed without difficulty. The patient made an uninterrupted recovery.

(4.) Fibro-cystic tumour of uterus, 16 pounds in weight, removed by panhysterectomy. The patient who was very weak and anæmic, had noticed the tumour for three years. She was kept in bed for three weeks with a view to improving her strength, but as she became worse each day, it was decided to give her the chance of an operation. The tumour was removed without difficulty, but the patient died of collapse five minutes after she was put back to bed.

(5.) Ovarian cyst removed from a girl aged 18. Patient made an uninterrupted recovery.

(6.) Ovarian cyst with twisted pedicle removed from a patient aged 40. She had been very weak prior to the operation, but improved rapidly after it.

(7.) Ovarian cyst and tube of same side removed for inflammation. The patient made an excellent recovery as far as the abdomen was concerned; but on the fourth day after operation she developed a very severe left-sided parotitis. An abscess formed which was opened and drained, and she left the hospital quite recovered six weeks after the operation.

(8.) Dermoid tumour of both ovaries removed from a patient aged 29; one tumour burst during removal. The patient made an uninterrupted recovery.

DR. ALFRED SMITH exhibited two ovarian sarcomata, which he removed from patients aged respectively 19 and 32. The large one belonged to the younger patient, and filled the entire abdominal cavity; it touched the ribs on the left side and felt so firm as to be mistaken for a fibro-myoma.

The smaller tumour which was the size of a four-month pregnant uterus, was extremely mobile, and could touch ribs on either side without over-stretching pedicle. Two interesting points

were—1st, the small quantity of ascites; 2nd, the sarcoma was confined to one side. The other ovary was healthy. Both patients are making good recoveries.

A large multilocular ovarian cyst, which led to an error in diagnosis; it was considered to be an extra-uterine pregnancy. There was enormous distension with free fluctuation, no markings of pregnancy, breasts small. Ballotement of a solid mass, quite distinct in left side; no foetal heart. Abdominal section revealed a ruptured ovarian cyst; the solid mass that balloted was proved to be an unruptured daughter cyst. Patient developed an extensive erythema multiforme six days after operation; several large bullæ were formed, which was followed by complete desquamation. The temperature never exceeded 100° F.; pulse 86. Recovery good.

The PRESIDENT remarked that nine years ago he operated in a case in which the sarcoma was quite as large as that exhibited, and he had great difficulty in getting it out of the pelvis. A day or two after the operation he saw Dr. Knowsley Thornton, of London, who said he had never known a case of the kind except one in which the disease did not recur within twelve months. But that lady was alive still, and had been a comparatively healthy woman in the interval; and, moreover, she had got married, but had not had children.

The Anticipation of Post-partum Hæmorrhage.

DR. HORNE having taken the chair,

DR. ATTHILL read a paper on "The Anticipation of Post-partum Hæmorrhage." He advocated the exhibition of ergot in combination with from 5 to 10 drop doses of liquor strychninæ for two or three weeks prior to the date at which labour was calculated to set in, in the case of patients in whom a tendency to post-partum hæmorrhage was known to exist, and gave the details of cases in which this treatment was carefully carried out, followed by the most satisfactory results. He stated that the exhibition of ergot when hæmorrhage had set in was seldom of use, for that ergot should produce any permanent effect on the uterus it requires to be administered at least some hours previously, and the dose requires to be repeated at intervals of about two hours. The author stated that he had been carrying out the practice advocated in all suitable cases for many years, had never once seen it fail to produce good results, and it never had produced unpleasant symptoms, or injured either mother or child. He also observed that, so far from inducing labour to set in prematurely, the exhibition of ergot and strychnin tended to retard its onset. Thus, in the case of one lady

who on several occasions had nearly lost her life from post-partum hæmorrhage, not alone was hæmorrhage averted, but the term of utero-gestation was prolonged to the 293rd day, calculated from the end of the last menstrual period; while on the last three occasions labour with her had set in almost about the 270th day; and in another case, while hæmorrhage was in like manner averted, labour did not set in till the 288th day, her previous pregnancies always terminating prematurely.

Dr. Atthill also advocated the exhibition of ergot in cases of threatened abortion, as being coupled with absolute rest, the best method of preventing its occurrence.

DR. HORNE said he could bear out a great many of the statements in the paper as to the influence of ergot before labour. They used to be taught to avoid administering it before the second stage of labour had commenced. But he had had opportunities of seeing one of the patients to whom Dr. Atthill administered it for some weeks before her confinement, and he could bear out his statement that very little blood was lost. When he was assistant to Dr. Atthill in the Rotunda, the first cases in which ergot was tried were those of abortion; and there was also a case of a woman who had a large sub-mucous fibroma, ergot was administered to her for a considerable time, but it had not much effect in reducing the tumour. The os uteri was then dilated and an incision was made in the capsule of the tumour. Ergot was again given and produced the most violent uterine contractions, and at the end of a week or ten days the tumour was expelled through the cervix uteri, and was removed. He thought therefore that the administration of ergot before uterine action set in had very little effect. The great danger in using it was when the membranes had ruptured, and the waters had escaped. The tonic effect of the ergot was then likely to stop the circulation of the fœtus and cause its death.

DR. ALFRED SMITH, said the rule he used to follow when he was in the Rotunda under Dr. Macan—and which he had since followed himself—was this:—If the patient gave a history of previous post-partum hæmorrhage, they always examined the urine for albumen, and if they found it they concluded that there was a tendency to post-partum hæmorrhage. His present practice in such cases was to treat the patient for albuminuria. The great danger was in the third stage of labour. On the proper management of that stage depended the chief security against post-partum hæmorrhage. He (Dr. Smith) had never had in private practice a case of post-partum hæmorrhage where the labour was otherwise normal. He had seen severe cases of

it in the Rotunda when he was a student ; but rarely when there was proper attendance in the third stage of labour. (The mixture of ergot and strychnin which Dr. Atthill used, he (Dr. Smith) frequently used in cases of threatened abortion or miscarriage. He formerly dreaded using ergot in any large quantity ; but he was glad to hear from so distinguished an authority as Dr. Atthill that that could be done with safety. Anyone who had seen ergotine injected in fibroid tumours must be aware that it caused pain.

DR. ERNEST TWEEDY said that at the present day gynæcology was tending to become a surgical science. They were apt to give up medicines altogether, and that, more than they should. They met many cases of post-partum hæmorrhage ; and he believed that what gave rise to it was endometritis. His own experience was that it was to that that post-partum hæmorrhage was nearly always due. He would ask Dr. Atthill did he think ergot a useful drug to administer in cases of endometritis.

DR. F. W. KIDD said he had had some experience of Dr. Atthill's administration of strychnin and ergot in cases of anticipated post-partum hæmorrhage. As to quinine, a certain amount of regard should be paid to experience of the use of that drug in other countries, and especially in India, where it was very much used in large quantities in cases of malarial fevers. His impression was that in the early stages of pregnancy they avoided quinine, but that in the latter stages it was not supposed to have any injurious effect on the pregnancy. Since his student days he had seen but one severe case of post-partum hæmorrhage. As to the administration of ergot in hospitals, it should be borne in mind that the ergot they got in hospitals was supplied by contract, and was often unreliable. Dr. Tweedy had said that all the cases of this hæmorrhage that he had seen were due to endometritis. How could he prove that? He (Dr. Kidd) believed that some students acquired the habit of resorting too soon in the third stage of labour to Credé's method of expelling the placenta, and that that practice was a very prevalent cause of post-partum hæmorrhage. He admitted that in earlier years he had himself fallen into the practice which he now condemned.

DR. E. TWEEDY in explanation said he understood Dr. Atthill's paper to be entirely confined to cases of atonic hæmorrhage in which there had been no tearing of the cervix. And he believed that such hæmorrhage was always due to endometritis. Myoma and kidney diseases were causes of post-partum hæmorrhage, but only because they gave rise to endometritis, which was almost always the cause of a bleeding uterus.

DR. ATTHILL, in reply, did not say that either ergot or strychnin were absolutely efficacious to prevent post-partum hæmorrhage ; but if administered at the proper time, where a tendency to such hæmorrhage was known to exist, they tended in a marked way to prevent its occurrence. One thing of which he was certain was that the mixture he recommended tended to prolong the period of gestation. That was proved by the case he had mentioned of the lady who had ten children, and who had a tendency to be always confined before her time. The case showed that ergot had some specific action on the uterus. He believed that it strengthened the uterine fibres, and caused them to contract, and thus prevent or arrest the hæmorrhage. In his early days it was medicine, and medicine only, for this hæmorrhage ; that existed to a certain extent still ; but at the present day the majority of them were sceptical about the action of medicine, and no one was more sceptical than himself. But although he was a sceptic he was not an unbeliever. Medicine properly administered was most useful ; and if its results were sometimes unsatisfactory, it was because they did not watch its effects in particular cases sufficiently, but followed like sheep a prescribed line of treatment. In cases of neuralgia the action of quinine was beyond all doubt. In the same way ergot when properly administered was a most efficient drug ; and what he asked the members to do was to make trial of it. But it would not excite uterine action unless there was a foreign body in the uterus. His observations about the preventive treatment of post-partum hæmorrhage were based entirely on private practice ; for hospital practice did not afford opportunities of watching the patients. Quinine he had not tried. He was afraid he could not agree with what Dr. Tweedy had said as to endometritis being invariably the cause of this hæmorrhage. At least he did not go so far as to say that it was the invariable cause. But he was prepared to say that ergot was absolutely useless in cases of endometritis. Perhaps he was not as good an obstetrician formerly as he could claim to be now ; but he had had patients dying of post-partum hæmorrhage in which endometritis could not possibly have arisen. He believed a great deal depended on the treatment of the third stage of labour. He had no preconceived ideas when he began this treatment ; and his paper was founded on most careful observations made during 25 years. Everyone might draw erroneous conclusions ; but he could say with confidence after fifty years' practice that he never put forward any treatment which, he was more convinced, was—not absolutely certain—but useful than that which he now advocated. It would give satisfaction in the

majority of cases, would reduce the size of the uterus, and prevent sub-involution, which was the *fons et origo* of many ills.

The Section then adjourned.

SECTION OF PATHOLOGY.

President—CONOLLY NORMAN, M.D.

Sectional Secretary—E. J. McWEENEY, M.D

Friday, February 26, 1897.

J. B. STORY, M.B., F.R.C.S., in the Chair.

Bubonic Plague.

In the absence of Dr. Joseph Redmond, the Sectional Secretary (Dr. McWeeney) demonstrated microscopic preparations by Dr. Yersin of the plague bacillus, discovered by himself (Dr. Yersin) and (independently) by Kitasato. One of the slides was a gentian-violet stained smear preparation from the bubo of a Chinaman dead at Hong-Kong of the disease, and showed enormous numbers of short oval bacilli in pairs and single forms with an unstained spot in the centre like the bacillus of chicken cholera, lying amongst the lymphoid elements and pus-cells. The other was a preparation from the blood of a mouse which had succumbed to septicæmia, consequent on the inoculation with a pure cultivation of the bacillus. Here the organism took the shape of a diplococcus, or very short diplo-bacillus. The speaker then gave a *résumé* of our present knowledge of this organism, including its *habitat* in the soil, its tendency to attack rats, &c., through which its virulence became so heightened that it could attack the healthy human system, and the successful results claimed by Yersin for sero-therapeusis. He concluded by quoting a specimen of the directions said to have been issued by the College of Physicians of London for the cure of plague during the last great visitation in 1665: "Pull off the the feathers from the tails of living cocks, hens, pigeons, or chickens; and holding their bills, hold them hard to the botch or swelling, and so keep them at that part till they die, and by this means draw out the poison. It is good to apply a cupping glass, or embers in a dish, with a handful of sorrel upon the embers."

The communication was discussed by the chairman and Dr. Parsons, and Dr. McWeeney replied.

The Section then adjourned.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.;
F.R.C.P.I.; F. R. Met. Soc.;

Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, April 24, 1897.

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

TOWNS	Weeks ending				TOWNS	Weeks ending			
	April 3	April 10	April 17	April 24		April 3	April 10	April 17	April 24
Armagh -	28·0	35·1	35·1	56·1	Lisburn -	4·3	25·7	17·0	25·7
Ballymena	16·9	5·6	11·3	5·6	Londonderry	29·8	23·6	15·7	22·0
Belfast -	28·7	28·7	27·1	30·2	Lurgan -	9·1	31·9	22·8	22·8
Carrickfergus	5·8	17·5	11·7	17·5	Newry -	8·1	32·2	16·1	32·2
Clonmel -	14·6	14·6	9·8	9·8	Newtownards	68·0	22·7	17·0	5·7
Cork -	28·4	28·4	37·4	18·0	Portadown -	30·9	30·9	68·0	12·4
Drogheda -	15·2	15·2	7·6	0·0	Queenstown	17·2	23·0	17·2	34·4
Dublin -	37·6	35·3	26·7	33·1	Sligo -	25·4	35·5	20·3	25·4
Dundalk -	33·5	29·3	4·2	33·5	Tralee -	56·0	22·4	22·4	5·6
Galway -	52·9	30·2	18·9	18·9	Waterford -	33·8	13·9	13·9	33·8
Kilkenny -	14·2	33·0	0·0	14·2	Wexford -	13·5	18·1	9·0	27·1
Limerick -	33·7	22·5	32·3	26·7					

In the week ending Saturday, April 3, 1897, the mortality in thirty-three large English towns, including London (in which the rate was 17·6), was equal to an average annual death-rate of 18·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·1 per 1,000. In Glasgow the rate was 24·1. In Edinburgh it was 22·9.

The average annual death-rate represented by the deaths registered during the week in the twenty-three principal town districts of Ireland was 31·3 per 1,000 of their aggregate population, which, for the purposes of this Return, is estimated at 984,720.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 4·6 per 1,000, the rates varying from 0·0 in fourteen of the districts to 6·9 for Dublin. Among the 155 deaths from all causes registered in Belfast are 5 from measles, 2 from scarlatina, 9 from whooping-cough, 1 from diphtheria, 10 from enteric fever, and 2 from diarrhoea. The 41 deaths in Cork comprise 4 from measles, 1 from whooping-cough, and 1 from diarrhoea.

In the Dublin Registration District the registered births amounted to 188—96 boys and 92 girls; and the registered deaths to 258—117 males and 141 females.

The deaths, which are 49 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 38·5 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 37·6 per 1,000. During the first thirteen weeks of the current year the death-rate averaged 40·0, and was 8·1 over the mean rate in the corresponding period of the ten years 1887–1896.

Deaths from zymotic diseases, which had fallen from 80 for the week ended March 20 to 71 for the following week, further declined to 58, but this number is 33 in excess of the average for the corresponding week of the last ten years. The 58 deaths comprise 27 from measles—being 10 under the number from that cause in the preceding week and 19 under the number in the week ended March 20—4 from scarlet fever (scarlatina), 2 from influenza and its complications, 9 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 1 from enteric fever, 1 from diarrhoea and vomiting, 3 from diarrhoea, 1 from dysentery, and 1 from erysipelas.

The weekly number of cases of measles admitted to hospital, which had risen from 49 for the week ended March 20 to 71 for the following week, fell to 39. Forty-five measles patients were discharged, 3 died, and 151 remained under treatment on Saturday, being 9 under the number in hospital at the close of the preceding week.

The number of cases of scarlatina admitted to hospital was 19, being 5 under the admissions in the preceding week, but 9 over the number for the week ended March 20. Twenty-three patients

were discharged, 1 died, and 103 remained under treatment on Saturday, being 5 under the number in hospital on that day week. This number is exclusive of 21 convalescents at Beneavin, Glasnevin.

Only 4 cases of enteric fever were admitted to hospital, being 4 under the admissions in the preceding week, and 9 under the number for the week ended March 20. Eleven patients were discharged, and 35 remained under treatment on Saturday, being 7 under the number in hospital at the close of the preceding week.

Five cases of typhus were admitted to hospital, against 3 cases in the preceding week. Fifteen cases of the disease remained under treatment in hospital on Saturday.

Diseases of the respiratory system caused 58 deaths, being 11 in excess of the average number of deaths from these diseases in the corresponding week of the last ten years, and 22 over the number for the previous week. The 58 deaths comprise 34 for bronchitis and 19 from pneumonia or inflammation of the lungs.

In the week ending Saturday, April 10, the mortality in thirty-three large English towns, including London (in which the rate was 17.5), was equal to an average annual death-rate of 18.6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 24.6 per 1,000. In Glasgow the rate was 25.2, and in Edinburgh it was 26.7.

The average annual death-rate in the twenty-three principal town districts of Ireland was 29.5 per 1,000 of their aggregate population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 4.3 per 1,000, the rates varying from 0.0 in fourteen of the districts to 17.0 in Newtownards—the 4 deaths from all causes registered in that district comprising 1 from each of the following—scarlatina, whooping-cough, and diarrhoea. Among the 155 deaths from all causes registered in Belfast are 7 from measles, 2 from scarlatina, 1 from typhus, 5 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, and 10 from enteric fever. The 41 deaths in Cork comprise 4 from measles, 1 from whooping-cough, and 1 from diphtheria.

In the Dublin Registration District the registered births amounted to 215—94 boys and 121 girls; and the registered deaths to 241—119 males and 122 females.

The deaths, which are 43 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 35.9 in every 1,000 of the population. Omitting

the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 35·3 per 1,000. During the first fourteen weeks of the current year the death-rate averaged 39·8, and was 8·1 over the mean rate in the corresponding period of the ten years 1887–1896.

The number of deaths from zymotic diseases registered was 48, being 10 under the number in the preceding week and 23 under that in the week ended March 27, but 22 over the average for the 14th week of the last ten years. The 48 deaths comprise 25 from measles—being 2 under the number from that disease in the preceding week and 12 under the number in the week ended March 27—1 from German measles, 3 from scarlet fever (scarlatina), 1 from typhus, 3 from influenza and its complications, 9 from whooping-cough, 2 from diphtheria, and 1 from diarrhœa.

The number of cases of measles admitted to hospital was 38, being 1 under the admissions in the preceding week and 33 under the number in the week ended March 27. Forty-seven measles patients were discharged, 1 died, and 141 remained under treatment on Saturday, being 10 under the number in hospital at the close of the preceding week.

Twenty-two cases of scarlatina were admitted to hospital, being 3 over the admissions in the preceding week, but 2 under the number for the week ended March 27. Twenty patients were discharged, 1 died, and 104 remained under treatment on Saturday, being 1 over the number in hospital on the previous Saturday. This number is exclusive of 21 convalescents at Beneavin.

The hospital admissions included also 5 cases of enteric fever and 1 case of typhus. During the preceding week 4 cases of the former and 5 of the latter disease had been received. Thirty-four cases of enteric fever and 14 of typhus remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had risen from 36 in the week ended March 27 to 58 in the following week, were 55, or 7 in excess of the average for the corresponding week of the last ten years. The 55 deaths comprise 24 from bronchitis, 21 from pneumonia, and 3 from croup.

In the week ending Saturday, April 17, the mortality in thirty-three large English towns, including London (in which the rate was 16·6), was equal to an average annual death-rate of 17·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·3 per 1,000. In Glasgow also the rate was 22·3, and in Edinburgh it was 26·0.

The average annual death-rate represented by the deaths registered in the twenty-three principal town districts of Ireland was 25·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 3·8 per 1,000, the rates varying from 0·0 in seventeen of the districts to 5·8 in Carrickfergus—1 of the 2 deaths from all causes registered in that district having been caused by whooping-cough. Among the 146 deaths from all causes registered in Belfast are 8 from measles, 1 from scarlatina, 6 from whooping-cough, 9 from enteric fever, and 1 from diarrhœa. The 54 deaths in Cork comprise 7 from measles and 1 from diphtheria.

In the Dublin Registration District the registered births amounted to 139—71 boys and 68 girls; and the registered deaths to 189—104 males and 85 females.

The deaths, which are 6 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 28·2 in every 1,000 of the population. Omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the district, the rate was 26·7 per 1,000. During the first fifteen weeks of the current year the death-rate averaged 39·1, and was 7·7 over the mean rate in the corresponding period of the ten years 1887–1896.

The number of deaths from zymotic diseases registered was 40, being 8 under the number for the preceding week and 18 under that for the week ended April 3, but 18 over the average for the fifteenth week of the last ten years. The 40 deaths comprise 15 from measles—being 10 under the number from that disease in the preceding week—2 from scarlet fever (scarlatina), 1 from typhus, 1 from influenza, 14 from whooping-cough (against 9 in the preceding week), 2 from diphtheria, 1 from enteric fever, 1 from diarrhœa and vomiting, and 1 from diarrhœa.

The weekly number of cases of measles admitted to hospital, which had fallen from 71 in the week ended March 27 to 39 in the following week and 38 in the week ended April 10, further declined to 33. Sixty measles patients were discharged, 7 died, and 107 remained under treatment on Saturday, being 34 under the number in hospital at the close of the preceding week.

The number of cases of scarlatina admitted to hospital was 17, being 5 under the admissions in the preceding week. Nine patients were discharged, and 112 remained under treatment on Saturday, being 8 over the number in hospital on that day week. There were, besides, 21 convalescents at Beneavin.

Seventeen cases of enteric fever were admitted to hospital against 5 in the preceding week. Six patients were discharged, and 45 remained under treatment on Saturday, being 11 over the number in hospital on the previous Saturday.

Diseases of the respiratory system caused 37 deaths, being equal to the average for the corresponding week of the last ten years, but 18 under the number for the previous week. The 37 deaths consist of 25 from bronchitis and 12 from pneumonia.

In the week ending Saturday, April 24, the mortality in thirty-three large English towns, including London (in which the rate was 17·5), was equal to an average annual death-rate of 18·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·6 per 1,000. In Glasgow the rate was 22·0, and in Edinburgh it was 29·2.

The average annual death-rate in the twenty-three principal town districts of Ireland was 28·1 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the twenty-three districts were equal to an annual rate of 3·7 per 1,000, the rates varying from 0·0 in fifteen of the districts to 6·0 in Dublin. Among the 163 deaths from all causes registered in Belfast are 3 from measles, 1 from scarlatina, 6 from whooping-cough, 1 from simple continued fever, 5 from enteric fever, and 4 from diarrhoea. The 26 deaths in Cork comprise 1 from measles and 3 from whooping-cough.

In the Dublin Registration District the registered births amounted to 188—104 boys and 84 girls; and the registered deaths to 232—127 males and 105 females.

The deaths, which are 52 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 34·6 in every 1,000 of the population. Omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the district, the rate was 33·1 per 1,000. During the first sixteen weeks of the current year the death-rate averaged 38·8, and was 7·7 over the mean rate in the corresponding period of the ten years 1887–1896.

Zymotic diseases caused 45 deaths, being 26 in excess of the average number of deaths from these causes in the corresponding week of the last ten years, and 5 over the number registered in the previous week, but 3 under the number in the week ended April 10. The 45 deaths comprise 19 from measles—being 4 over the number from that disease in the preceding week, but 6 under the number in the week ended April 10—1 from scarlet fever

(scarlatina), 1 from influenza, 14 from whooping-cough (being equal to the number in the preceding week), 1 from diphtheria, 2 from enteric fever, 3 from diarrhœa, 1 from dysentery, and 1 from erysipelas. Thirty-six of the 45 deaths from zymotic diseases were deaths of children under 5 years of age. Nine of the 19 deaths from measles occurred in the city, and 10 in the suburban districts.

There was a further decline in the number of cases of measles admitted to hospital, the admissions being 28 only, against 33 in the preceding week, 38 in that ended April 10, 39 in that ended April 3, and 71 in that ended March 27. Twenty-four measles patients were discharged, 2 died, and 109 remained under treatment on Saturday, being 2 over the number in hospital at the close of the preceding week.

The admissions of scarlatina cases also show a decline, the number being 14, or 3 under the number for the preceding week, and 8 under that for the week ended April 10. Nine patients were discharged, and 117 remained under treatment on Saturday, being 5 over the number in hospital on that day week. This number is exclusive of 16 convalescents under treatment at Beneavin.

The number of cases of enteric fever admitted to hospital was 12, being 5 under the admissions in the preceding week, but 7 over the number in the week ended April 10. Nine patients were discharged, and 48 remained under treatment on Saturday, against 45, the number in hospital on Saturday, April 17.

Deaths from diseases of the respiratory system, which had fallen from 55 in the week ended April 10 to 37 in the following week, rose to 57, or 20 over the average number for the corresponding week of the last ten years. The 57 deaths comprise 32 from bronchitis, 19 from pneumonia, and 2 from croup.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W. for the Month of April, 1897.

Mean Height of Barometer, - - -	29·818 inches.
Maximal Height of Barometer (on 10th, at 9 a.m.),	30·289 „
Minimal Height of Barometer (on 1st, at 9 a.m.),	29·281 „
Mean Dry-bulb Temperature, - - -	45·0°.
Mean Wet-bulb Temperature, - - -	42·2°.
Mean Dew-point Temperature, - - -	39·0°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·239 inch.
Mean Humidity, - - - - -	80·6 per cent.
Highest Temperature in Shade (on 28th), -	59·7°.
Lowest Temperature in Shade (on 2nd), -	29·9°.
Lowest Temperature on Grass (Radiation) (on 2nd), - - - - -	28·0°.
Mean Amount of Cloud, - - - - -	61·7 per cent.
Rainfall (on 22 days), - - - - -	2·485 inches.
Greatest Daily Rainfall (on 20th), - - -	·421 inch.
General Directions of Wind, - - -	E., W.S.W.

Remarks.

A cold, changeable, rainy month. In Dublin rain fell on as many as 22 days, including snow or sleet on 2 and hail on 5. The barometer was very unsteady, and the distribution of atmospheric pressure was for the most part cyclonic. A finer and drier period, associated with a tolerably high barometer and easterly winds, set in on the 21st and lasted for a few days, but winter lingered to the close in Ireland, though in England some genial warmth was enjoyed in the daytime after the 25th. The amount of cloud was, in Dublin, 12 per cent. in excess of what it had been in April, 1896.

In Dublin the arithmetical mean temperature (45·9°) was 1·8° below the average (47·7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 45·0°. In the thirty-two years ending with 1896, April was coldest in 1879 (the cold year) (M. T.=44·5°), and warmest in 1893 (M. T.=51·4°). The month of April, 1893, was the warmest for at least 30 years, yet it was only half a degree warmer than April, 1896, which was 5° warmer than the month now under discussion.

The mean height of the barometer was 29·818 inches, or 0·032 inch below the average value for April—namely, 29·850 inches. The mercury rose to 30·289 inches at 9 a.m. of the 10th and fell

to 29·281 inches at 9 a.m. of the 1st. The observed range of atmospheric pressure was, therefore, 1·008 inches.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 45·0°, or only 1·2° above the value for March, 1897. Using the formula, *Mean Temp.* = *Min.* + (*max.*—*min.* × ·476), the value is 45·6°, or 1·8° below the average mean temperature for April, calculated in the same way, in the twenty-five years, 1865–89, inclusive (47·4°). The arithmetical mean of the maximal and minimal readings was 45·9°, compared with a twenty-five years' (1865–1889, inclusive) average of 47·7°. On the 28th the thermometer in the screen rose to 59·7°—wind, N.W.; on the 2nd the temperature fell to 29·9°—wind, N.W. The minimum on the grass was 28·0° also on the 2nd.

The rainfall was 2·485 inches, distributed over 22 days. The average rainfall for April in the twenty-five years, 1865–89, inclusive, was 2·055 inches, and the average number of rainy days was 15·2. The rainfall and the rainy days, therefore, were considerably above the average. In 1877 the rainfall in April was very large—4·707 inches on 21 days; in 1882, also, 3·526 inches fell on 20 days, and in 1894, 3·123 inches on 20 days. On the other hand, in 1873, only ·498 inch was measured on 8 days; in 1870, only ·838 inch fell, also on 8 days; and in 1896, only ·883 inch on 16 days.

Fog was observed on the 21st. High winds were noted on 16 days, reaching the force of a gale on the 3rd and 16th. Hail fell on the 1st, 14th, 15th, 19th, and 30th. The temperature rose to 50° in the screen on 22 days. It never rose to 60°, and once fell to 32° in the screen, and on 4 nights below 32° on the grass. The mean lowest temperature on the grass was 37·7°, compared with 40·6° in 1896, 37·8° in 1895, 40·0° in 1894, 38·2° in 1893, 32·4° in 1892, 34·1° in 1891 and 1890, 34·4° in 1889, 34·6° in 1888, and 31·6° in 1887. Solar halos were seen on the 8th and 16th, lunar halos on the 10th and 15th. Snow or sleet fell on the 1st and 14th.

The month opened with very unsettled, winterly weather. On the morning of Thursday, the 1st, a deep depression (28·84 inches at Jersey) was found to have travelled quickly eastwards up the English Channel, its centre at 8 a.m. being midway between the Isle of Wight and Cherbourg. Heavy rain and warm S.W. winds prevailed in France, while cold N.E. winds and sleet were experienced in England, the weather being still colder and drier in Scotland and Ireland. In the afternoon snow and hail fell heavily in Dublin. Another sharp frost followed at night. Friday was

fair and cold. A new disturbance in the S.W. brought gloom, cold rain, and a piercing S.E. wind to the Irish stations on Saturday. The rainfall of these first three days amounted to $\cdot 199$ inch, $\cdot 130$ inch being registered on the 3rd, none on the 2nd, and $\cdot 069$ inch on the 1st.

Another period of cold, unsettled, rainy weather has to be recorded in the week ended Saturday, the 10th. A number of complex but not very deep atmospheric depressions drifted slowly across Western Europe in an easterly or south-easterly direction. The centres of these systems usually passed across Wales, the S.W. of England and Brittany, and in those districts the rainfall was exceptionally heavy. Sunday was cold and wet at first, then dull and dreary on the east coast of Ireland, though fair at Holyhead. Rain fell heavily on Monday and Tuesday nights. Wednesday was a raw, cold day in Dublin, and thunder and lightning occurred in London with sleet and rain. Thursday morning was frosty; a solar halo appeared in the forenoon, and the afternoon was wet. On Friday also dull rainy weather prevailed, as a V-shaped depression passed eastward across Ireland. Between 5 and 6 p.m. the sky darkened and a sudden shift of wind from S.W. to N. took place with close rain. The sky cleared at night and temperature again became very low. Saturday proved a beautiful springlike day—a ridge of high barometer having advanced over Ireland in the rear of Friday's V-shaped depression. In Dublin the mean height of the barometer was 29·882 inches, pressure ranging between 29·564 inches at 9 a.m. of Wednesday (wind, W.N.W.) and 30·289 inches at 9 a.m. of Saturday (wind, N.N.W.). The corrected mean temperature was $43\cdot 4^{\circ}$. The mean dry bulb temperature at 9 a.m. and 9 p.m. was $42\cdot 5^{\circ}$. On Friday the screened thermometers rose to $54\cdot 1^{\circ}$; on Thursday they fell to $33\cdot 8^{\circ}$. The wind was variable—chiefly south-easterly. Rain fell on six days to the amount of $\cdot 757$ inch, $\cdot 259$ inch being registered on Tuesday.

Comparatively fine and springlike in parts of England—particularly the South and South-east—the weather during the week ended Saturday the 17th remained extremely broken and inclement in Ireland, the South-west of England, Wales and Scotland. A large anticyclone was found lying over Northern Europe up to and including Thursday, but in this period areas of low pressure were passing in rapid succession either northwards or north-eastwards along the western shores of Ireland and Scotland. Hence the prevalent strong southerly to westerly winds and frequent showers. Early on Wednesday morning the wind veered to W.N.W. in

Ireland, and a bitterly cold day followed, showers of hail, sleet and snow falling at frequent intervals. At night there was clear moonlight and temperature was very low— 37.9° at 9 p.m. Thunder and lightning occurred over Central England on this day. The two succeeding days were changeable, squally and showery. A brief spell of fair, dry weather was enjoyed in the east of Ireland on the afternoon of Good Friday, but thunderstorms occurred in England. A sheet of cirro-stratus, in which a solar halo was seen at first, overspread the sky on Friday evening. Saturday was wet and windy but mild at first, then showery, and finally clear and cold as well as dry. In Dublin the mean height of the barometer was 29.732 inches, pressure ranging between 29.323 inches at 9 p.m. of Tuesday (wind, S.S.W.), and 30.043 inches at 9 p.m. of Thursday (wind, W.S.W.). The corrected mean temperature was 46.5° . The mean dry bulb temperature was 45.8° . On Saturday the screened thermometers rose to 56.1° ; on Thursday they sank to 37.1° . Rain fell daily to the total amount of .826 inch, .209 inch being measured on Friday. The wind was first south-easterly, then westerly.

The most noteworthy feature in the weather of the week ended Saturday the 24th was the cessation of the rainfall after Wednesday, and the substitution of strong easterly (or polar) winds, dry and searching in character, for the westerly (or equatorial) winds which had so long prevailed. On Easter Day, April 18, a sharply-defined cyclone lay over Denmark, the station Fanö reporting a barometric reading of 29.20 inches at 8 a.m., whereas atmospheric pressure reached 30.16 inches at Valentia Island, Kerry. Fresh N.W. winds blew all over the British Islands, but the weather, although cool, was chiefly dry. On Monday a new disturbance advanced over Ireland, causing a wet afternoon. At 6 p.m. a heavy hail shower passed across Dublin and a brisk fall of temperature took place. Brilliant rainbows were seen in the evening. On Tuesday yet another depression approached Ireland, where rain fell heavily in the afternoon. This system apparently travelled away southwards as an area of high barometer developed over Scotland and the Norwegian Sea. With this re-adjustment of atmospheric pressure came a spell of strong, dry, cold easterly winds and much bright sunshine. As is usual in such a polar current, the atmosphere was very hazy—indeed, on Wednesday thick vapour fog prevailed for some time. On Friday a large depression was found over the Peninsula, moving north-eastwards to France and Central Europe. The effect was to increase the force of the easterly wind and to break up the fine weather in the extreme S. and S.E. In Dublin

the mean height of the barometer was 29·917 inches, pressure ranging from 29·571 inches at 9 p.m. of Tuesday (wind, S.E.) to 30·200 inches at 9 p.m. of Thursday (wind, E.). The corrected mean temperature was 46·5°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 46·2°. On Sunday the screened thermometers rose to 55·0°; on Tuesday they sank to 38·7°. The rainfall was ·553 inch, ·421 inch being registered on Tuesday. The prevailing winds were at first S.W., then E.

Comparatively favourable and springlike weather occurred in the closing period (25th–30th). In Ireland there was very little warmth, but over the south and south-east of England the daily maxima were considerably above 60° on and after Monday. At the beginning an area of high barometer held over Northern Europe, while depressions were found over the Bay of Biscay and the Peninsula, as well as in the Mediterranean Basin. Hence easterly winds, low temperatures, and hazy but dry weather held in the British Islands and Central Europe. Tuesday morning broke dull and rainy in Dublin but the afternoon proved fair. In the evening a severe thunderstorm with heavy rain and hail passed across parts of London—large quantities of hail falling in and about Streatham and Tooting. On Wednesday also electrical disturbances took place in various parts of both France and England in connection with a number of shallow atmospheric depressions which slowly approached from S.W. On Thursday a more decided depression appeared in the N.W., causing rain at first and afterwards cold showers and hail on Friday. During the ensuing night the thermometers sank to 39·0° in the screen, and to 35·9° on the grass in Dublin. In Dublin the barometer rose to 30·066 inches at 9 p.m. of Wednesday (wind, W.), and sank to 29·701 inches at 9 a.m. of Friday (wind, W.N.W.). On Wednesday the screened thermometers both rose to 59·7° and fell to 42·7°. The rainfall was ·150 inch on four days, ·060 inch falling on Thursday. The prevalent winds were E. and W.N.W.

The rainfall in Dublin during the four months ending April 30th amounted to 9·554 inches on 79 days, compared with 5·781 inches on 63 days in 1896, 10·233 inches on 65 days in 1895, 9·151 inches on 73 days in 1894, 6·242 inches on 56 days in 1893, 5·922 inches on 61 days in 1892, only 3·203 inches on 46 days in 1891, 9·045 inches on 59 days in 1890, and a twenty-five years' average of 8·466 inches on 66·2 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall amounted to 4·135 inches on 19 days. The heaviest falls in 24 hours were 1·130 inches on the 12th and ·650 inch on the 6th. The total

rainfall in 1897, up to April 30th, was 13·080 inches on 80 days, compared with 5·686 inches on 50 days in 1896, 12·570 inches on 54 days in 1895, 12·456 inches on 70 days in 1894, and 8·530 inches on 54 days in 1893.

At Cloneevin, Killiney, Co. Dublin, 2·77 inches of rain fell on 22 days. The maximal fall in 24 hours was ·52 inch on the 5th. The average rainfall in April of the twelve years, 1885–1896, was 1·648 inches on 13·2 days. Since January 1, 1897, 10·36 inches of rain fell at this station on 83 days, compared with 5·27 inches on 55 days in 1896, 11·28 inches on 66 days in 1895, 9·09 inches on 74 days in 1894, and 6·94 inches on 57 days in 1893.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, the rainfall was 3·406 inches on 19 days. On the 5th, ·690 inch was measured; on the 12th, ·630 inch; and on the 20th, ·541 inch. The maximal temperature in the shade was 58·8° on the 17th. The minimal temperature in the screen was 30·1° on the 2nd. The thermometer in the screen fell to or below 32° on two days—the 2nd and 3rd. At this climatological station, 13·492 inches of rain had fallen on 76 days since January 1, 1897.

BENGAL JAILS.

WE take the following figures from the *Indian Medico-Chirurgical Review* :—The total number of prisoners admitted into the jails of Bengal in the year 1895 was 89,597 against 91,714 in 1894, showing a decrease of 2,117. A table of jail mortality for a period of 50 years (1844 to 1894) shows the average death-rate of the prisoners to be 65·5 per mille. How the averages vary for definite periods is shown by the death-rate of two decades. In the decade 1876 to 1885 the average death-rate was 62·2, in the decade immediately following this period—viz., 1886 to 1895—the average attained was 37·3. It is stated that the year 1894 was the most unhealthy for jail populations, and the death-rate for this year was 47·1 per mille. The average death-rate of the last ten years (37·3) shows a marked and sustained improvement in the health of the jail population throughout Bengal, and is a certain index of the great improvement which has occurred in jail management throughout the province. The death-rate for 1895 is considerably below this low average, being only 27·3. Of the causes of mortality “dysentery and diarrhoea” and “intermittent fevers” were the chief diseases to which the prisoners succumbed.

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PERISCOPE.

QUEEN VICTORIA'S NURSES.

THE Dean of Rochester (the Very Rev. S. Reynolds Hole, D.D.) has written an expressive and touching hymn in commemoration of Queen Victoria's Nurses to the Sick Poor in their own homes. The hymn has been effectively set to appropriate music by Mr. George C. Martin, and published by Novello, Ewer, & Co., of London and New York. At the trifling cost of three-halfpence both words and music may be obtained. One verse may be quoted to show the character of the composition:—

“In lonely cottage, and in crowded street,
Where pain and nakedness and hunger meet,
They bring sure comfort to the sore oppress'd,
Strength to the weak and to the weary rest.”

A PRIZE COCOA.

AT the Universal Food and Cookery Exhibition, held at Niagara Hall, London, under the patronage of H.R.H. the Duke of Connaught and H.R.H. the Princess Louise, and which closed on Wednesday, May 19, 1897, the Prix d'Honneur was awarded to Van Houten's Cocoa for purity, strength, flavour, and digestibility—in addition to true economy in use.

DEATHS FROM ANÆSTHESIA.

THE *Occidental Medical Times* publishes a paper on this subject, read before the San Francisco Medical Society by Dr. L. C. Lane, of San Francisco. He quotes from a work of Dr. O. Kappeler, of Thurgau, published in 1880. The statistics, it will be seen, are very discrepant. Dr. Andrews reports 1 death in 2,723 administrations of chloroform, in America. Dr. Coles, of Virginia, reported:—Ether, 4 deaths in 92,815 cases; chloroform, 53 in 152,260; both together, 2 in 11,176. Richardson, in England, reported 11 deaths by chloroform in 35,165 cases; Kerr, 1 death in 36,500 administrations in Edinburgh. In the American Civil War 7 deaths in 80,000 cases of chloroform anæsthesia were recorded. Nussbaum, of Munich, had no death in 15,000 cases. In the Zurich hospital but 1 death occurred in 5,000 cases. “In the 48th volume of the *Archiv. für klinische Chirurgie*, E. Gurlt, of Berlin, the famous statistician, has published the result of his studies, and which, as the most reliable work, probably,

done in this field, I herewith present in summarized form :—Of 166,812 administrations of chloroform, in the period from 1889 to 1894, there occurred 63 deaths ; on an average 1 in 2,647 administrations. During the same period, among 26,320 patients anesthetized by ether, 2 died ; that is, 1 in 13,160. From a mixture of ether and chloroform, there occurred but 1 death in 8,014 administrations. From a mixture of alcohol, chloroform and ether, known as ‘Billroth’s mixture,’ there occurred 1 death in 4,190 administrations. From bromide of ethyl, there occurred 2 deaths in 7,541 administrations. Some years ago, Dr. Squibb stated that the deaths from anæsthetics would probably be more accurately represented if the published cases were doubled, so as to represent the unpublished ones.”

“OUR DOGS.”

WE have received the first number of *Our Dogs*, “a weekly journal devoted solely to dogs,” price, one penny. To the ignorant outsider, like ourselves, the solemn earnestness with which we are informed that a gentleman addicted to dogs “has lost his Bulldog Vagabond, by Ruling Passion,” has its comic side ; but to doggy men and to unprofessional dog-lovers this periodical will be interesting and instructive. Dogs deserve to have a paper of their own.

POTASSIUM PERMANGANATE AND OPIUM.

WE quote from the *Indian Medico-Chirurgical Review* a case of opium poisoning in which potassium permanganate was successfully exhibited. Mr. Hari Bhicaji, chief Medical Officer Gondal State, is the reporter :—At about the noon of 1st August, and during the temporary absence of the mother, a Hindoo child, aged about 18 months whilst playing about in the house, swallowed about 4 grains of opium, from an opium box, which was lying in the room. At 2 p.m. the mother on her return found the child lying unconscious on the floor, with the tin box containing opium beside it. The child was at once removed to the State Hospital and when admitted it was found to be fully under the influence of opium, with the head and extremities drooping and stertorous breathing. As there was no chance of using the stomach pump or of giving any emetics, the idea occurred to me that permanganate of potash might answer in this case, as recommended by Dr. William Moore, of New York. Accordingly I dissolved 8 grains of the salt in one ounce of water, and began to administer the solution in 2 drachm doses every 10 minutes, by the mouth, of course, with much difficulty. After an hour from the first

dose, the child appeared to be improving, still the solution was continued, but at longer intervals (every 20 minutes). The child showed decided improvement four hours after its admission into the hospital, and six hours after the swallowing of opium. At about midnight it was seen playing in the bed by the side of the mother. The total quantity of the salt used in the case was 16 grains.

TEA CIGARETTES.

THE *Lyon Médical* says that fashionable English ladies are no longer content to drink tea, but that they smoke it at their five o'clock teas. A lady who is very well known always has tea cigarettes passed around after dinner. Another spends nearly two pounds sterling a week in order to gratify her taste for tea cigarettes, and three celebrated actresses have given tea-smoking parties several times. In Kensington a number of literary ladies have organised a club for this same purpose. The habit has spread so elsewhere that tobacco merchants are offering packages of tea cigarettes to the public.—*N. V. Med. Journ.*

DIPHTHERIA ANTITOXIN.

IN a paper by Prof. W. H. Welch, of the Johns Hopkins University, printed in the *Canadian Practitioner*, the following occurs:—"In Baginsky service the mortality for a year previous, under antitoxin treatment, had been 15·6 per cent. During the two months when the supply of antitoxin failed it rose to 48·4 per cent., returning to about the original figure on the supply being renewed. Rork noted a rise of fatality from 33·1 per cent. during the serum period to 53·8 per cent. during the period of failure of supply. Ganghofner, from 12·7 per cent. to 53·2 per cent.; Herm, from 22 per cent. to 65·6 per cent.; in Trieste, during an epidemic, from 18·7 per cent. to 50 per cent."

CHOLERA INOCULATIONS.

DR. W. J. SIMPSON, Health Officer of Calcutta, contributes to the *Indian Medical Gazette* his report to the Corporation on two years' experience of anti-choleraic inoculations. Dr. Simpson is an enthusiastic advocate of Haffkine's method. The following extracts contain his principal conclusions:—"Firstly, that during the first four days after the inoculation, cholera occurred among the inoculated and non-inoculated, though in a smaller degree among the inoculated, as will be shown later on; secondly, after the first four days, there was a period of over a year when there was almost an absolute freedom among the inoculated, while among the non-inoculated in the same houses, cases were occur-

ring during the whole year ; and thirdly, after this period cases began gradually to reappear among the inoculated as well as among the non-inoculated." "That notwithstanding the incomplete protective effect of the first four days and the gradual disappearance of the resistance in those inoculated with weak doses of weak vaccines, which a large number of the inoculated people have received, the mortality amongst the inoculated, compared with that of the uninoculated, was in the proportion of 1 to 3·63, giving a reduction of mortality of 72·47 per cent., or, in other words, in houses where inoculations were performed, and which were subsequently visited by cholera, there occurred for every 11 deaths amongst the uninoculated three deaths amongst a similar number of inoculated. The results of Calcutta are fully confirmed by those obtained in other parts of India wherever it was possible to make all the necessary observations with precision, and wherever the cases were sufficiently numerous to show the effect of the inoculation."

LA SETTIMANA MEDICA.

THE weekly issue of *Lo Sperimentale*, the organ of the Florentine *Accademia Medico-Fisica*, having attained its fiftieth year, will in future appear as *La Settimana Medica dello Sperimentale* ; under the direction of Prof. P. Grocco. In the number before us there is an interesting paper on cadaveric rigidity ; discussing the question whether a corpse can retain the erect or other position, in which sudden death supervened. The answer is affirmative, illustrative instances are given, and the conditions favouring immediate rigor mortis are stated. Medico-legal cases occur in which the subject may be of importance.

PHRENOLOGY.

SOME papers which appeared in *Fraser's Magazine* many years ago demonstrated the unscientific nature of Gall's classification of the mental faculties from the metaphysical point of view. His localisation appears to be equally unsatisfactory. Dr. Charles L. Dana, of New York, in a paper contributed to the *Medical Record*, remarks :—Taking a standard phrenological bust as sold by the professors of the art, I have drawn over the various faculties, as indicated by Gall, lines by which I could map out the functions of the different parts of the brain, so far as they have been absolutely determined by modern investigations. These show some curious juxtapositions. Thus, the bumps of murder or destructiveness and secretiveness, which lie just above the ears, correspond with the centre for hearing ; the bump of thieving,

which is a little in front of the ear, lies over the centre for the movements of the mouth; while self-esteem and reverence correspond with the more measured activities of the legs; I find also that parental love is identical on the bust with the sense of sight, and hope with the motions of the shoulders and arms. Perhaps some philosopher of the future will reconcile these differences and construct upon them an esoteric metaphysics; but at present it seems to me that physiology has quite extinguished the science of bumps. While the actual contributions of Dr. Gall to science were small, his work called attention to the importance of studying the conformation of the head and the function of the brain, and gave an impetus to more serious and fruitful studies.

TYPHOID DEATH-RATE OF AMERICAN CITIES.

FROM the principal cities of the United States, and Toronto, Canada, the following death-rates per 100,000 of population from typhoid fever alone are reported for 1894—New York, 17; Brooklyn, 15; Boston, 28; Philadelphia, 32; Baltimore, 48; Washington, D.C., 71; Pittsburg, 56; Buffalo, 36; Cleveland, 27; Detroit 26; Chicago, 31; Milwaukee, 26; St. Louis, 31; New Orleans, 28; San Francisco, 35; Cincinnati, 50; Louisville, 72; Providence, 47; Jersey City, 76; Lowell, 55; Newark, 15; Dayton, Ohio, 20; Toronto, 17.—*Canadian Practitioner*.

CREMATION IN PARIS.

THE crematory in Père Lachaise was established in 1889. It is used, we believe, for the cremation of still-born children and of the *débris* of the dissecting-rooms; but—we learn from the *Journal of the American Medical Association*—only 810 ordinary bodies have been incinerated in the five years. The number is slowly increasing from year to year, as the following figures show:—1889, 49; 1890, 121; 1891, 134; 1892, 159; 1893, 199; 1894, including July, 148.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Saxin.

“SAXIN” is the name given to a powerful sweetening agent recently introduced and issued in “tabloid” form by Messrs. Burroughs, Wellcome & Co. It possesses a sweetening power about six hundred times greater than that of sugar, and is most delicate in flavour. This makes it acceptable to many patients who have hitherto refused

all sweetening agents other than sugar. A $\frac{1}{4}$ gr. "saxin" "tabloid" may be substituted for each lump of sugar in the case of patients suffering from diabetes, gout, obesity, glycosuria, &c. By this means the harmful effects of sugar will be avoided, since "saxin" has no harmful action on the system. "Saxin" in "tabloid" form ($\frac{1}{4}$ gr. in each) is issued in bottles of 100 and 200.

Palatinoids of "Easton's Syrup."

MESSRS. OPPENHEIMER, SON & Co., of London, have succeeded in manufacturing a "palatinoid" which contains an amount of phosphates of iron, quinine and strychnin equivalent to half a drachm of Easton's syrup, so well known as a powerful nervine tonic. The dose is one or two palatinoids, as the physician directs. This form of administration is very convenient for travellers or persons who are leading an active life from home. The palatinoids are easily swallowed. In these palatinoids the dose of the phosphates is stable, and therefore accurate. Being hermetically closed in a jujube cachet, they do not undergo decomposition, and patients can take a rather disagreeable (because intensely bitter) medicine tastelessly.

Antikamnia and Salol Tablets.

"ANTI-KAMNIA" is an American preparation which is steadily winning its way into favour as an antipyretic, anodyne, and analgesic of considerable power and safety. It is described as "a combination of coal-tar derivatives of the series C_nH_{2n-6} , into which the amines have entered, forming the various amido-compounds." Unlike other coal-tar products, it is said to have a stimulating action on the nervous centres and on the heart. It occurs as a micro-crystalline perfectly white powder, of a slightly pungent and bitter taste, and an alkaline reaction. It is moderately soluble in water, more freely soluble in sparingly glycerised water, and freely soluble in brandy, whisky or wine. Antikamnia is incompatible with acids. It may be readily given as a powder, in a cachet, or as a tablet. The dose for adults is 5 to 15 grains, for children in proportion. The preparation has proved of use in fever as an antipyretic, in rheumatism and neuralgia as an anodyne and analgesic. The Antikamnia Chemical Company, Saint Louis, U.S.A., have designed a compressed tablet of antikamnia and salol, $2\frac{1}{2}$ grains of each, which is likely to prove of great use in typhoid fever and acute rheumatism. These tablets may be had at the British depôt of the Company, 46 Holborn Viaduct, London, E.C. The somewhat fanciful name "antikamnia" means "opposed to pain" (*ἀντί* and *κᾰμνω*, *I am weary*).

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JOHN WILLIAM MOORE, B.A., M.D., M.Ch., UNIV. DUBL.;
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SENIOR PHYSICIAN TO THE MEATH HOSPITAL AND COUNTY DUBLIN INFIRMARY;
CONSULTING PHYSICIAN TO CORK-STREET FEVER HOSPITAL;
EX-SCHOLAR OF TRINITY COLLEGE, DUBLIN;
FELLOW OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON.

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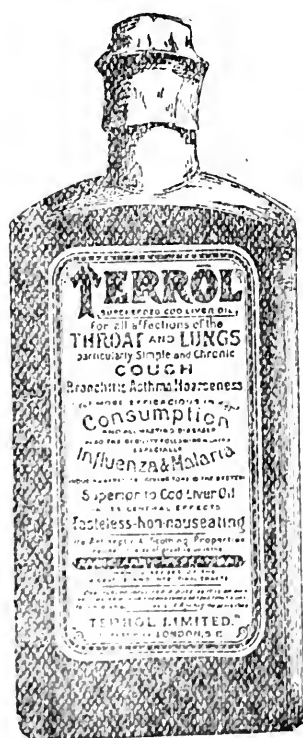
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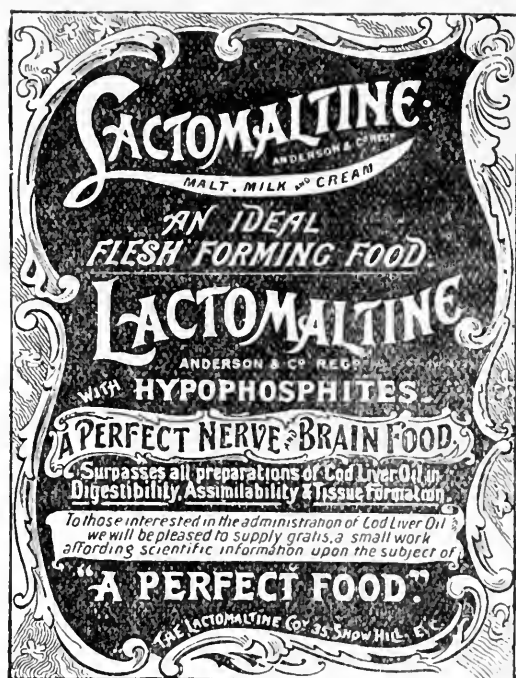
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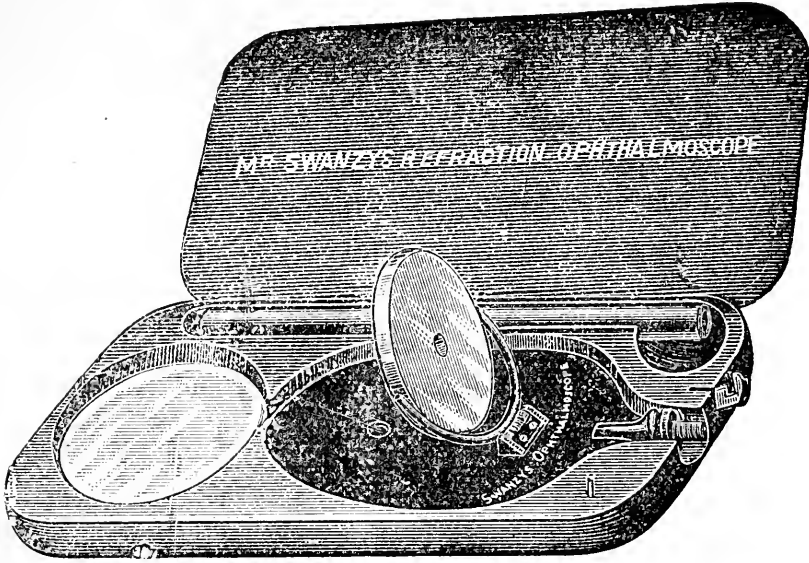
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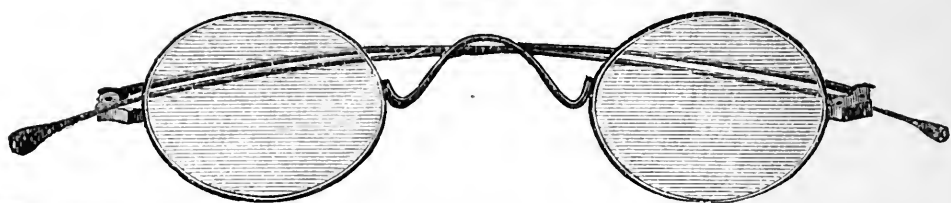
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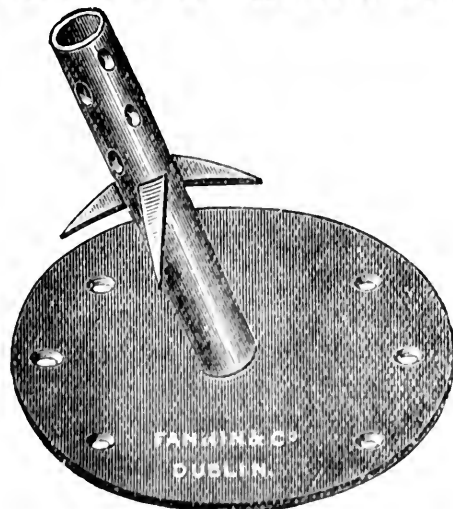
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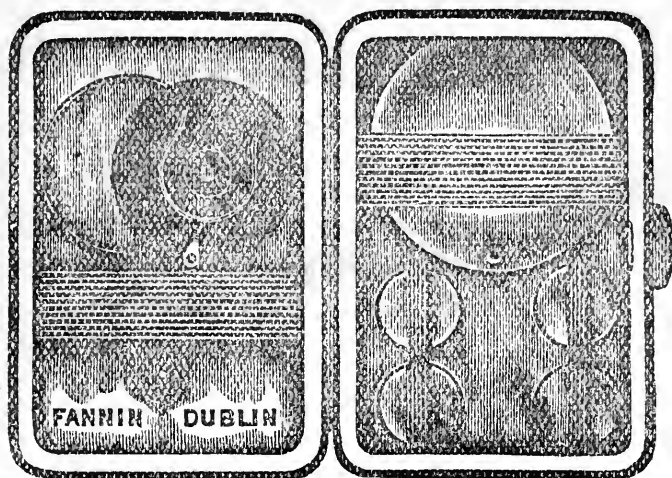
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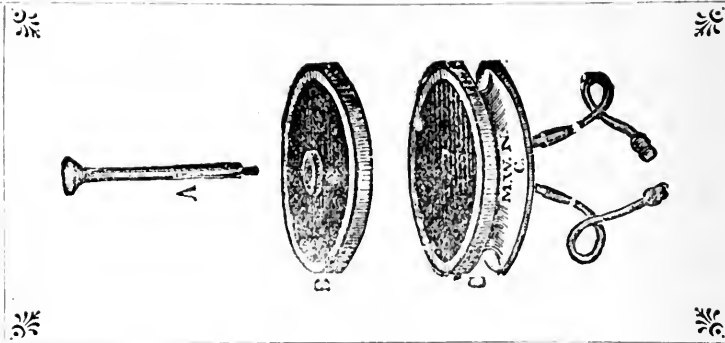
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